un acercamiento a la aplicación de los sistemas expertos (SE) de inteligencia artificial (IA) al campo de la bibliotecología, documentación y ciencias de la información documental

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Resumen

Este trabajo es un acercamiento teorético e histórico sobre los sistemas expertos (SE) de inteligencia artificial (IA) y adicionalmente esboza sus posibles aplicaciones al campo de la bibliotecología, documentación y ciencias de la información documental. En el aspecto práctico se realizaron diversas búsquedas bibliográficas para intentar cubrir toda la literatura científica publicada en el mundo y registrada por bases de datos bibliográificas científicas como las los sistemas Dialog, Silver Platter, Ovid y otras, que a su vez fueron organizadas en el software Reference Manager; se encontraron 133 registros pertinentes a la temática de los cuales sólo 20 documentos se encontraron en texto completo en las bibliotecas del ITESM Campus Monterrey y de la Universidad de Monterrey.

INTRODUCCION

Como el título lo indica, este trabajo es un acercamiento a la aplicación de los sistemas expertos (SE) de inteligencia artificial (IA) al campo de la bibliotecología, documentación y ciencias de la información. Mas tendría que agregarle que uno muy somero.

En su realización aprendí bastante. Tanto en lo teórico como en lo práctico. Por lo teórico significo conocimientos nuevos sobre el tema, por lo práctico dominio del sistema Reference Manager ® y diversos softwares de aplicación:internet, importacion de archivos, etc.

Pero aclaro que me hubiera gustado haber realizado un ensayo más a conciencia. Pero fueron precisamente esos enormes cúmulos de conocimientos teórico-prácticos los que me impidieron haber realizado un mejor ensayo. De hecho el dominio del Reference Manager ® fue difícil. Lo más difícil, y que de hecho ni yo ni mis compañeras logramos, fue la captura de registros provenientes de algunos sistemas que no pertenecían al catálogo del RM ®, por más que intenté por todos los medios no pude importarlos. Sólo pude importar los de Education Index y Educational Resources Information Center de SilverPlatter ®. Los del Global Books in Print de Bowker los anexé en este disquete en la ruta: a:\bibnacio\addenda\fuzzylog*.* (véase).

Finalmente encontré --al decir de Nuria Amat-- 133 registros pertinentes, de los cuales solo 20 se localizaban en las bibliotecas de la localidad; a decir verdad sólo en el ITESM-CIB y UDEM-BC, donde la primera es donde hubo mayores ocurrencias.

En la sección de estrategias de búsqueda se puede ver palmariamente todos los intentos y combinaciones de terminología de thesaurus, descriptores, palabras clave, etc. para lograr sólo la información más precisa.

Agradezco a la empresa Educomsa, S.A. de C.V. (Alpes 2580-A, Col. Obispado, Monterrey, N.L. Tel. 333 60 96 e-mail: bpemty@infosel.net.mx) por facilitarme las bases antemencionadas; al Sr. Adolfo Martínez por sus asesorías en el RM ®, pero sobre todo a nuestro maestro Lic. Ibarra por guía y sugerencia del tema.

CUERPO DE LA OBRA
INTELIGENCIA ARTIFICIAL (IA)

I. Definición:

La expresión IA ha sido muy controvertida y se ha prestado a numerosas confusiones e interpretaciones erróneas como la noción de inteligencia es en

sí misma compleja y relativa, no es fácil definir la disciplina científica que es la IA.

La IA puede ser abordada desde dos puntos de vista complementarios:

1. El primero concierne a los mecanismos de la inteligencia, y utilizar la computadora como medio de simulación para verificar un modelo o una teoría. Este punto de vista implica una perspectiva cognitiva.

2. El segundo, más pragmático, concierne a los esfuerzos realizados para dotar la computadora de las capacidades que habitualmente se atribuyen a la inteligencia humana, como por ejemplo, la adquisición de conocimientos, la percepción (visión, audición), el razonamiento, la toma de decisiones. Este segundo punto de vista es el que se encuentra más comúnmente. Consiste en emular, mediante un programa de computadora, comportamientos inteligentes sin reproducir, sin embargo, el funcionamiento correspondiente del ser humano.

Los dos enfoques precedentes son de hecho ampliamente complementarios en la medida en que un mejor conocimiento de los mecanismos humanos permite mejorar el rendimiento de los sistemas informáticos. La IA aparece así como una rama avanzada de la informática, cuyas técnicas utiliza; la informática, por su parte, asimila progresivamente las adquisiciones de la IA. Esto no reduce de ningún modo el carácter multidisciplinario que es una encrucijada de numerosas ciencias y técnicas.

La IA se ha convertido en una realidad en la década de los 80, tanto en el plano académico, gracias a muchos miles de investigadores y de docentes de todo el mundo como en el plano económico, a través de aplicaciones bien logradas, empresas especializadas en este campo y proyectos de investigación y desarrollo de gran envergadura.

II. Reseña histórica.

Nacimiento. La IA nació en agosto de 1956, fecha en la que una conferencia llevada a cabo en Dartmouth, Estados Unidos, reunió a un conjunto de científicos de alto nivel, entre ellos J. McCarthy, M. Minsky, C. Shannon, A. Newell y H. Simon, quienes se propusieron estudiar la posibilidad de realizar programas de computadora dotados de inteligencia. La expresión Artificial Intelligence, forjada en esa ocasión, perduró a pesar de sus defectos y de la oposición de ciertos investigadores como Newell y Simon.

Los primeros programas de IA también aparecieron en esa época (un demostrador de teoremas de lógica, el *Logic Theorist,* y un programa de ajedrez, ambos de Newell y Simon), como también *LISP,* "lenguaje-guía" de la IA. En el plano científico, los desarrollos teóricos y prácticos sobre autómatas, por una parte, y los trabajos de lógica matemática, por otra, constituyen sus fundamentos.

Otros teóricos connotados son: Babbage, Turing, Wiener; Leibniz, Boole, Hilbert, Godel y Church.

III .- Caracteristicas esenciales de la IA

Los campos que aborda la IA son múltiples. Sin embargo, existe un conjunto de puntos comunes entre todos los sistemas de la IA que permiten distinguir especialmente las características más importantes de esta disciplina.

Un programa de IA se caracteriza por el hecho de que manipula mucho más informaciones simbólicas que números, como sucede en la informática "clásica".

Estas informaciones representan conceptos, reglas, objetos, hechos, idénticos a los que habitualmente tienen en cuenta un ser humano cuando razona. Esto no excluye, por supuesto, la utilización de procedimientos que implican tratamiento numérico, pero la explotación de los resultados se hará, generalmente, en forma simbólica. Así, un sistema de ayuda para diagnóstico médico deducirá del valor numérico 38, 2oC que el paciente está ligeramente afiebrado.

Una segunda noción comúm en la IA es la de los métodos heurísticos ("que ayudan a encontrar", del griego : encontrar), por oposición a los métodos algorítmicos clásicos. Un algoritmo, codificado en un lenguaje de programación para proporcionar un programa, consiste en una decripción exhaustiva de la secuencia de operaciones que hay que llever a cabo para resolver un problema dado. Un heurístico es un método de resolución que toma vías no determinadas y cuyo éxito no ésta asugurado, pero que cuando "marcha" bien, a menudo permite una gran economía de tiempo de cálculo. En caso de fracasar, es necesario volver a atrás y ensayar otra solución. La búsqueda heurística de una solución a un problema consiste a menudo en "podar" el conjunto de caminos de resolución posibles para no encarar sino aquellos que más prometen.

La utilización de los métodos heurísticos es muy frecuente en la IA. Permite abordar problemas que no pueden tratarse por los métodos algorítimicos tradicionales:

- los problemas sin solución algorítmica conocida, muy comunes en diversos campos de la actividad humana: percepción, toma de decisiones, diseño;

- los problemas cuya solución algorítmica es una complejidad demasiado grande para los medios informáticos disponibles. Un ejemplo típico es el de los juegos, en particular el de ajedrez.

Otra peculiaridad de la IA es la de acomodarse a situaciones en la que los datos y las informaciones tratados son incompletos, inexactos, es decir,

conflictivos. Aunque no resulva totalmente este problema, muy arduo, la IA proporciona, no obstante, métodos eficaces, especialmente en forma de técnicas de razonamiento aproximativo o no monótono, etcétera.

Una noción muy importante de la IA es la noción de *conocimiento*. Mientras que en sus comienzos los investigadores intentaban descubrir mecanismos generales para la resolución de problemas, la IA actual se "conforma" con concebir sistemas capaces de resolver problemas en campos reducidos y bien delimitados, basándose en una gran cantidad de conocimiento propio de esos campos. Debe reconocerse que este conocimiento se encuentra precisamente en el hombre: un experto reconocido posee en el área de su actividad muchos conocimientos y gran experiencia. Estos conocimientos a menudo son suministrados al sistema de IA de manera declarativa, mucho más cercana a su forma natural que cuando son codificados como procedimientos en un lenguaje de programación. Los sistemas basados en conocimiento, y especialmente los sistemas expertos SE, constituyen un elemento principal en el edificio actual de la IA.

Finalmente, la IA es, en esencia, multidisciplinaria. La realización de un sistema reclama las técnicas avanzadas de la informática (sus necesidades específicas requieren incluso el desarrollo de lenguajes y máquinas propios). Pero la IA nutre igualmente sus raíces en otras disciplinas: lógica y psicología cognitiva (para los fundamentos de la representación del conocimiento y del razonamiento), linguística, (para el procesamiento del lenguaje natural escrito y hablado), ergonomía, filosofía... neurociencias y biología.

Los campos de la IA:

1. Demostración automática de teoremas.
2. Procesamiento del lenguaje natural escrito.
3. Procesamiento (reconocimiento y comprensión) del habla.
4. Interpretación de imágenes y visión por computadora.
5. Robótica.
6. Juegos.
7. Sistemas Expertos (SE).

Tomado de Haton y Haton (1991)

SISTEMAS EXPERTOS

Se denomina Inteligencia Artificial (IA) a la parte de la Informática que trata del diseño de sistemas computarizados, inteligentes, sistemas que muestran las características que pueden asociarse a la inteligencia en lo que se refiere al comportamiento humano: comprensión del leguaje, aprendizaje, razonamiento, resolución de problemas, etc.

La IA investiga las relaciones entre los sistemas de información y las capacidades de las computadoras. Pero desde el punto de vista documental de la IA nos interesan sus resultados y productos: aquellos sistemas que permiten o permitirán llevar a cabo una conversación inteligente con la máquina.

En le camino hacia la IA se encuentran los Sistemas Expertos (SE) que pueden definirse como sistemas que proporcionan los conocimientos de un experto en un tema limitado. Debido a lo cual se les llama programas de consulta.

Los sistemas expertos, que aparecieron hace relativamente poco tiempo (al comienzo de los años 70) son capaces de alcanzar las ejecuciones de los expertos humanos en diversos tipos de tareas (diagnóstico, asesoramiento, planificación, concepción), realizados en campos restringidos. El conocimiento utilizado por un SE en el curso de su razonamiento se adquiere previamente, proporcionado por expertos, y es formalizado e introducido en una base de conocimiento.

El usuario de un SE introduce un problema en la máquina y recibe como respuesta un serie de preguntas del SE. El resultado es una recomendación por parte de este último al usuario para que realice una acción determinda, una conclusión o un juicio.

La IA en la recuperación automática de la información.

La importancia de la IA para la recuperación automática de la información es obvia. La búsqueda de la información hemos visto que consiste en acceder a los documentos pertinentes, al texto de los mismos y a sus conocimientos. Los SE, pues, producirán sistemas capaces de leer los documentos, entender lo que estos dicen, además de realizar preguntas al usuario sobre los mismos.

La aplicación de la IA en la búsqueda bibliográfica parte de cuatro categorías esenciales:

1. Comunicación entre las personas y las bases de datos.

2. Indización conceptual (técnicas de organización de las bases de datos de acuerdo con todos los significados posibles de todos los conceptos)

3. Entrada automática de datos (sistema capaz de leer un texto y planificar su contenido de acuerdo con la estructura de los conocimientos de cada base de datos particular)

4. Técncas activas de memorización (cuyo resultado serían estructuras de almacenamiento activo en las que todo se haya almacenado de forma explícita, y lo que no se encuentre explìcitamente puede ser recontruido o deducido)

La IA tiende a permitir que los datos o párrafos de un texto relevantes para el usuario que los necesita en cada caso particular, puede ser localizado en una base de datos y aplicarse a la resolución de un problema.

Además, los usuarios de estos SE de IA pueden acceder a un gran abanico de diferentes tipos de información: texto o documentos origianales, comentarios acerca de ellos, preguntas anticipadas sobre los mismos, etc. a través de un diálogo interactivo llevado a cabo mediante el lenguaje coloquial común (español, inglés, etc.).

Se prevé, entonces que todo el proceso de información de Input (lectura de documentos, análisis, indización, codificación y almacenamiento) y Output (pregunta, tratamiento, edición y lectura de referencias) lo realice la máquina gracias al SE.

- El ordenador escribirá por sí solo la ecuación de búsqueda.
- El ordenador hará preguntas al usuario para que explique su búsquda.
- El ordenador proporcionará en mayor medida la información que contienen los documentos que los documentos mismos. Es decir, los conocimientos integrados en los documentos.

La IA como productora de información científica.

Respecto a quienes no disponen de tiempo para leer aquellos documentos que deberían conocer, ni tampoco de medios para mandar traducir los publicados en idiomas extraños, las máquinas inteligentes que trabajarán con programas aplicados a la Documentación Científica parecen que han encontrado la solución idónea.

Si es práctica corriente el acceso a la información por medios telemáticos, todo usuario de estos servicios sabe de antemano que el resultado de su consulta bibliográfica online consiste en una lista de documentos que responden a su petición. El receptor obtendrá 10, 50, 100 o más documentos que escritos en lenguas diversas contienen la información que le interesa. Ello implica la tarea de leer aquellos artículos, libros o informes seleccionados por el ordenador previa consulta del interesado. Sea por razones de costes de comunicación o imposibilidad de dedicar parte de su tiempo a la lectura de los originales, o por la suma de ambas, el usuario acostumbra a quejarse de esta labor que debe llevar a cabo por sí mismo.

La IA permite eliminar este problema mediante la puesta a punto de los SE o programas de elaboración artificial de textos. En cuanto al resultado final, la

diferencia básica de estos nuevos sistemas con los anteriores reside en que la máquina proporciona un nuevo texto elaborado por ella misma en lugar de aquellos documentos que contienen la información de forma aleatoria y dispersa. La tarea de visualizar las referencias, conseguir los originales uno a uno para seleccionar su contenido, la realizará la máquina, y de ese modo el usuario obtendrá un documento nuevo, "original" en cierto sentido, que será nada más y nada menos que la síntesis de todos aquellos documentos introducidos en la base de datos y que responden a las características de la consulta.

En el caso por ejemplo, que versara sobre máquinas superinteligentes y escritores superinteligentes, la respuesta que proporcionaría la computadora consistiría en un texto con características similares al que estoy redactando en el supuesto de que para escribirlo me hubiera basado en la síntesis de varios documentos publicados y memorizados sobre el tema. Si hasta hoy obteníamos referencias bibliográficas y sus correspondientes originales, a partir de ahora provistas de sistemas inteligentes ya son capaces de producir tantos documentos como usuarios sean los que los soliciten.

Al escritor o productor científico le bastará con pedir a la máquina que le redacte aquella conferencia o aquel ensayo o aquel artículo que corresponda a las claves de contenido que este le proporciona. Es decir la creatividad de un autor podría quedar limitada, en el peor de los casos, a la inserción del título de su exposición y en cuanto al usuario que necesite información para utilizarla en su trabajo productivo concreto, éste tiene ya resuelto su problema de lectura (Amat, 1987, p. 512-514).

RECURSOS Y ASOCIACIONES

AI Resources & Organizations

AI Resources:

AI FAQ
CMU Artificial Intelligence Repository
KD AI Resources on the Internet
KSL Artificial Intelligence Resources
WWW Virtual Library AI Resources

AI Organizations:

AI Group (CS Dept. University of Geneva)
AI Lab Home Page (clarkson.Edu)
Austrian Research Institute for Artificial Intelligence
CIM Home Page
CMU Advanced Manipulators Lab
Georgia Tech - Artificial Intelligence
Georgia Tech Cognitive Science
IASC department

IMAG - Artificial Intelligence
Intelligent Systems Application Center (ISAC)
Intelligent Systems Program
Intelligent Systems Research Group (berkeley.Edu)
IRST Knowledge Representation and Reasoning Laboratory at IRST
Korea - Center for AI Research
Lancaster University - Applied AI/AI in Education Group
Millersville University Intelligent Machines Lab
Mississippi State Intelligent Systems Lab
MIT AI lab Web home page
MIT Media Lab Machine Listening Group
NASA Ames - Computational Sciences Division
National Research Council, Knowledge Systems Laboratory
Navy Center for Applied Research in Artificial Intelligence
Ohio State - Lab for Artificial Intelligence Research
Simon Fraser University - Intelligent Software Group
The Distributed Artificial Intelligence Laboratory
The Intelligent Perception and Action Lab
University of Alambama Huntsville - Intelligent Systems Laboratory
University of Chicago - Artificial Intelligence
University of Massachusetts Experimental Knowledge Systems Laboratory
University of Toronto - Enterprise Integration Laboratory
University of Trondheim - Activities in Artificial Intelligence
University of Washington Artificial Intelligence Research
University of Waterloo LPAIG

[Return to Computer Resources

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Harmon, Paul y King, David. (1988). *Sistemas expertos: aplicaciones de la inteligencia artificial en la actividad empresarial.* Madrid: Ediciones Díaz de Santos, 373 p.

Haton, Jean-Paul y Haton, Marie-Christine. (1991). *La inteligencia artificial: Una aproximación.* México: Editorial Paidós Mexicana, 156 p.

Partridge, Derek y Wilks, Yorick. Ed. (1989) *The foundations of artificial intelligence: A sourcebook.*New York: Cambridge University Press, 498 p.

Internet. Visualizador Netscape. World Wide Web. URLs.

Bibliografía de ejercicio como parte del trabajo
Incluye 133 registros

TY - JOUR
ID - 2
A1 - Kranch,D.A.
T1 - Teaching artificial intelligence and expert systems: concepts in library curricula
JF - Journal of Education for Library and Information Science
Y1 - 1992/ / /Winter
VL - 33
SP - 18
EP - 34
RP - Not in File
KW - Library science Curriculum
KW - Artificial intelligence
KW - Expert systems
AV - Education Index de SilverPlatter
N1 - 0748-5786 English 92007737
ER -

TY - JOUR
ID - 3
A1 - Young,R.J.,1942-
T1 - Artificial intelligence and school library media centers
JF - School Library Media Quarterly
Y1 - 1990/ / /Spring
VL - 18
SP - 150
EP - 157
RP - Not in File
KW - Artificial intelligence
KW - Expert systems
KW - Hypertext
KW - CD ROM
AV - Education Index de SilverPlatter
N1 - bibl 0278-4823 English 90009148
ER -

TY - JOUR
ID - 4
A1 - Henderson,D.
A1 - Martin,P.
A1 - Mayer,L.
T1 - Rules and tools in library schools
JF - Journal of Education for Library and Information Science
Y1 - 1989/ / /Winter
VL - 29
SP - 226
EP - 227
RP - Not in File
KW - Expert systems
KW - Libraries Reference services
KW - Reference books Teaching
AV - Education Index de SilverPlatter
N1 - 0748-5786 English 89007940
ER -

TY - JOUR
ID - 5
A1 - Woo,J.
T1 - Expert systems not yet clones of librarians
JF - American Libraries
Y1 - 1988/ / /Dec.
VL - 19
SP - 934
EP - 934
RP - Not in File
KW - Expert systems
KW - Library and Information Technology Association US Meetings 1988
KW - Libraries Automation
AV - ITESM-Centro de Información Biblioteca y Education Index de SilverPlatter
N1 - il 0002-9769 English 88026380
ER -

TY - JOUR
ID - 6
A1 - Epstein,H.,1934-
T1 - An expert system for novice MARC catalogers
JF - Wilson Library Bulletin
Y1 - 1987/ / /Nov.
VL - 62
SP - 33
EP - 36
RP - Not in File
KW - Expert systems
KW - Cataloging Computer programs
KW - Marc system
AV - Education Index de SilverPlatter
N1 - Augmented title: MITINET il 0043-5651 English 87025859
ER -

TY - JOUR
ID - 7
A1 - Kesselman,M.A.
T1 - Online update
JF - Wilson Library Bulletin
Y1 - 1987/ / /Oct.
VL - 62
SP - 49
EP - 50
RP - Not in File
KW - Artificial intelligence
KW - Expert systems
AV - Education Index de SilverPlatter
N1 - Augmented title: applied artificial intelligence 0043-5651 English 87025503
ER -

TY - JOUR
ID - 8
A1 - Molholt,P.

T1 - The information machine: a new challenge for librarians
JF - Library Journal
Y1 - 1986/ / /Oct. 1
VL - 111
SP - 47
EP - 52
RP - Not in File
KW - Information systems
KW - Expert systems
KW - Libraries Reference services
AV - UDEM-Biblioteca Central y Education Index de SilverPlatter
N1 - il 0363-0277 English 86021403
ER -

TY - JOUR
ID - 9
A1 - Mason,R.M.,1941-
T1 - Artificial intelligence: promise, myth and reality
JF - Library Journal
Y1 - 1996/ / /Oct. 1
VL - 121
SP - S6+
RP - Not in File
KW - Artificial intelligence
AV - UDEM-Biblioteca Central y Education Index de SilverPlatter
N1 - Augmented title: reprinted from April 15, 1985 issue 0363-0277 English 96028194
ER -

TY - JOUR
ID - 12
A1 - Smith,L.C.,1949-
T1 - Artificial intelligence: relationships to research in library and information science
JF - Journal of Education for Library and Information Science
Y1 - 1989/ / /Summer
VL - 30
SP - 55
EP - 56
RP - Not in File
KW - Artificial intelligence
AV - Education Index de SilverPlatter
N1 - 0748-5786 English 89015975
ER -

TY - JOUR
ID - 13
A1 - Byles,T.
T1 - Literate machines: the shape of things to come
JF - Wilson Library Bulletin
Y1 - 1988/ / /Feb.
VL - 62
SP - 47
EP - 49
RP - Not in File
KW - Text processing Computer science

KW - Artificial intelligence
KW - Language data processing
KW - Database management
AV - Education Index de SilverPlatter
N1 - 0043-5651 English 88005799
ER -

TY - JOUR
ID - 15
A1 - Mason,R.M.,1941-
T1 - Artificial intelligence: promise, myth, and reality
JF - Library Journal
Y1 - 1985/ / /Apr. 15
VL - 110
SP - 56
EP - 57
RP - Not in File
KW - Artificial intelligence
AV - UDEM-Biblioteca Central y Education Index de SilverPlatter
N1 - 0363-0277 English 85011972
ER -

TY - JOUR
ID - 16
A1 - Surprenant,T.T.,1942-
T1 - Future libraries
JF - Wilson Library Bulletin
Y1 - 1983/ / /Nov.
VL - 58
SP - 206
EP - 7+
RP - Not in File
KW - Artificial intelligence
AV - Education Index de SilverPlatter
N1 - Augmented title: fifth generation computers 0043-5651 English 84000863
ER -

TY - JOUR
ID - 17
A1 - Kranch,D.A.
T1 - Teaching artificial intelligence and expert systems: concepts in library curricula
JF - Journal of Education for Library and Information Science
Y1 - 1992/ / /Winter
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SP - 18
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RP - Not in File
KW - Artificial intelligence
KW - Expert systems
KW - Library science Curriculum
AV - Education Index de SilverPlatter
N1 - 0748-5786 English 92007737
ER -

TY - JOUR
ID - 18
A1 - Weiss,P.J.
T1 - The Expert Cataloging Assistant Project at the National Library of Medicine
JF - Information Technology and Libraries
Y1 - 1994/ /
VL - 13
SP - 267
EP - 271
RP - Not in File
AV - ITESM-Centro de Información Biblioteca y Educational Resources Information Center de SilverPlatter
ER -

TY - JOUR
ID - 19
A1 - Hawks,C.P.
T1 - Expert Systems in Technical Services and Collection Management
JF - Information Technology and Libraries
Y1 - 1994/ /
VL - 13
SP - 203
EP - 212
RP - Not in File
KW - Expert systems
AV - ITESM-Centro de Información Biblioteca y Educational Resources Information Center de SilverPlatter
ER -

TY - JOUR
ID - 20
A1 - Denning,R.
A1 - Smith,P.J.
T1 - Interface Design Concepts in the Development of ELSA, an Intelligent Electronic Library Search Assistant
JF - Information Technology and Libraries
Y1 - 1994/ /
VL - 13
SP - 133
EP - 147
RP - Not in File
AV - ITESM-Centro de Información Biblioteca y Educational Resources Information Center de SilverPlatter
ER -

TY - JOUR
ID - 21
A1 - Duval,B.K.
A1 - Main,L.
T1 - Expert Systems: What Is an Expert System?
JF - Library Software Review
Y1 - 1994/ /
VL - 13
SP - 44

EP - 53
RP - Not in File
KW - Expert systems
ER -

TY - JOUR
ID - 22
A1 - Gunning,K.
A1 - And Others
T1 - Networked Electronic Information Systems at the University of Houston Libraries: The IRIS Project and Beyond
JF - Library Hi Tech
Y1 - 1993/ /
VL - 11
SP - 49
EP - 55,83
RP - Not in File
KW - Information systems
ER -

TY - JOUR
ID - 23
A1 - Richardson,J.A.
A1 - And Others
T1 - MultiLIS: 21 Years in the Making
JF - Library Hi Tech
Y1 - 1993/ /
VL - 11
SP - 21
EP - 48
RP - Not in File
ER -

TY - JOUR
ID - 24
A1 - McCrank,L.J.
T1 - Reference Expertise: Paradigms, Strategies, and Systems
JF - Reference Librarian
Y1 - 1993/ /
SP - 11
EP - 42
RP - Not in File
ER -

TY - JOUR
ID - 25
A1 - Hawks,C.P.
T1 - In Support of Collection Assessment: The Role of Automation in the Acquisitions and Serials Departments
JF - Journal of Library Administration
Y1 - 1992/ /
VL - 17
SP - 13
EP - 30

RP - Not in File
ER -

TY - JOUR
ID - 26
A1 - Borah,E.G.
T1 - Beyond Navigation: Librarians as Architects of Information Tools
JF - Research Strategies
Y1 - 1992/ /
VL - 10
SP - 138
EP - 142
RP - Not in File
ER -

TY - JOUR
ID - 27
A1 - Entlich,R.
A1 - And Others
T1 - Enhancing the Processing Environment: The Development of a Technical Services Workstation
JF - Information Technology and Libraries
Y1 - 1992/ /
VL - 11
SP - 324
EP - 338
RP - Not in File
ER -

TY - JOUR
ID - 30
A1 - Jeng,L.H.
T1 - Networking and Transformation of Cataloging Expertise
JF - Proceedings of the Asis Mid Year Meeting
Y1 - 1992/ /
SP - 181
EP - 192
RP - Not in File
ER -

TY - JOUR
ID - 31
A1 - Gunning,K.
T1 - The Intelligent Reference Information System: The Effect on Public Services of Implementing a CD-ROM LAN and Expert System
JF - Library Administration & Management
Y1 - 1992/ /
VL - 6
SP - 146
EP - 153
RP - Not in File
KW - Information systems
KW - CD ROM
KW - Expert systems
ER -

TY - JOUR
ID - 32
A1 - Buboltz,D.
A1 - And Others
T1 - Teaching Library Skills for the 1990s
JF - Book Report
Y1 - 1991/ /
VL - 10
SP - 13
EP - 15,17,19
RP - Not in File
ER -

TY - JOUR
ID - 33
A1 - DeBrower,A.M.
A1 - Jones,D.T.
T1 - Application of an Expert System to Collection Development: Donation Processing in a Special Library
JF - Library Software Review
Y1 - 1991/ /
VL - 10
SP - 384,386
EP - 89
RP - Not in File
ER -

TY - JOUR
ID - 34
A1 - Morris,A.
T1 - Expert Systems for Library and Information Services--A Review
JF - Information Processing and Management
Y1 - 1991/ /
VL - 27
SP - 713
EP - 724
RP - Not in File
KW - Expert systems
ER -

TY - BOOK
ID - 35
A1 - Lancaster,F.W.,Ed
A1 - Smith,L.C.,Ed
T1 - Artificial Intelligence and Expert Systems: Will They Change the Library? Papers Presented at the Annual Clinic on Library Applications of Data Processing (27th, Urbana, Illinois, March 25-27, 1990). Illinois, March 25-27, 1990)
Y1 - 1992/ /
RP - Not in File
KW - Artificial intelligence
KW - Expert systems
ER -

TY - JOUR
ID - 36
A1 - Kuhlman,J.R.
T1 - On the Economics of Reference Service: Toward a Heuristic Model for an Uncertain World
JF - Reference Librarian
Y1 - 1995/ /
SP - 25
EP - 43
RP - Not in File
KW - Budgets
KW - Community Support
KW - Cost Effectiveness
KW - Library Development
KW - Library Expenditures
KW - Library Funding
KW - Library Planning
KW - Library Services
KW - Models
KW - User Needs Information
KW - Econometrics
KW - Heuristics
KW - Improvement
KW - Reference Services
N1 - An econometric model of library reference service is suggested for revision and improvement of current services. Discussion focuses on costs and budgets, expanding needs, and community support. (AEF)
ER -

TY - BOOK
ID - 37
A1 - Micco,M.
A1 - Popp,R.
T1 - Developing an Information Infrastructure To Support Information Retrieval: Towards a Theory of Clustering Based in Classification
Y1 - 1994/ /
RP - Not in File
KW - Automatic Indexing
KW - College Libraries
KW - Databases
KW - Expert systems
KW - Higher Education
KW - Hypermedia
KW - Users Information
KW - Classification
KW - Information Retrieval
KW - Online Catalogs
KW - Search Strategies
KW - Subject Index Terms
KW - Indiana University of Pennsylvania
KW - Information Infrastructure
KW - Library of Congress Subject Headings
KW - MARC
KW - Natural Language
KW - Prototypes
KW - Cluster Based Retrieval

KW - Dewey Decimal Classification
N1 - Techniques for building a world-wide information infrastructure by reverse engineering existing databases to link them in a hierarchical system of subject clusters to create an integrated database are explored. The controlled vocabulary of the Library of Congress Subject Headings is used to ensure consistency and group similar items. Each database becomes a system object, and each package within the database is assigned a subject cluster based on its content. An expert system matches the user profile to the information package best suited to need and locates the appropriate database. This is supplemented by a machine-generated natural language mapping scheme to lead the user into the clusters of interest. For the prototype, an object-oriented hypermedia user interface was developed, using MARC records. Packages are grouped into subject clusters consisting of the classification number and the first subject heading/keyword assigned. Use of a hierarchical classification number (Dewey number) makes it possible to broaden or narrow a search at will. It is anticipated that the system will be useful to searchers and will also provide a basis for automated indexing. Fifteen computer prototype screens are presented as illustrations. (SLD)
ER -

TY - JOUR
ID - 38
A1 - Richardson,J.V.,Jr
A1 - Reyes,R.B.
T1 - Government Information Expert Systems: A Quantitative Evaluation
JF - College & Research Libraries
Y1 - 1995/ /
VL - 56
SP - 235
EP - 247
RP - Not in File
KW - Expert systems
KW - Case Studies
KW - Comparative Analysis
KW - Information Sources
KW - Tests
KW - Government Publications
KW - Reference Materials
KW - Reference Services
KW - Question Answering
KW - Improvement
KW - Experts
KW - Evaluation
KW - United States
N1 - Two knowledge-based systems (KBS) are compared and contrasted; a test, based on 15 typical United States government document reference questions about the federal level of government, measured correct responses and keystroke efficiency. Concludes that there is a need for improvement of KBS in the government information field. (Author/AEF)
ER -

TY - JOUR
ID - 39
A1 - Du Plessis,J.P.
A1 - And Others
T1 - A Model for Intelligent Computer-Aided Education Systems
JF - Computers & Education
Y1 - 1995/ /
VL - 24
SP - 89

EP - 106
RP - Not in File
KW - Models
KW - Computer Assisted Instruction
KW - Computer Interfaces
KW - Constructivism Learning
KW - Cooperative Learning
KW - Expert systems
KW - Intermediate Grades
KW - Mathematics Instruction
KW - Online Systems
KW - Problem Solving
KW - Research Needs
KW - Intelligent Tutoring Systems
KW - Object Oriented Programming
KW - Prototypes
N1 - Proposes a model for intelligent computer-aided education systems that is based on cooperative learning, constructive problem-solving, object-oriented programming, interactive user interfaces, and expert system techniques. Future research is discussed, and a prototype for teaching mathematics to 10- to 12-year-old students is appended. (LRW)
ER -

TY - BOOK
ID - 40
A1 - Liebowitz,J.,Ed
A1 - Prerau,D.S.,Ed
T1 - Worldwide Intelligent Systems: Approaches to Telecommunications and Network Management. Frontiers in Artificial Intelligence and Applications, Volume 24
Y1 - 1995/ /
RP - Not in File
KW - Artificial intelligence
KW - Computer Networks
KW - Foreign Countries
KW - Information Technology
KW - International Communication
KW - Knowledge Representation
KW - Online Systems
KW - Computer Mediated Communication
KW - Expert systems
KW - Information Management
KW - Information Networks
KW - Telecommunications
KW - Hybrid Technologies
KW - Speech Recognition
N1 - This is an international collection of 12 papers addressing artificial intelligence (AI) and knowledge technology applications in telecommunications and network management. It covers the latest and emerging AI technologies as applied to the telecommunications field. The papers are: "The Potential for Knowledge Technology in Telecommunications: A Quick Look" (J. Liebowitz); "Expert Systems for Telecommunications Dispatch Analysis and Remote Trouble Resolution" (D. S. Prerau); "Expert System for Service Order Information Entry" (S. Watanabe and F. Hattori); "Help Desk Applications at Telesoft" (F. Giovannini and V. Ripa di Meana); "Network Management Using Real-Time Expert Systems" (W. Fuller and S. Miksell); "AI for Managing Telecommunication Networks" (M. De Beler and others); "AI and Intelligent Networks in the 1990s and into the 21st Century" (L. Lewis); "Speech Recognition and Understanding (R. De Mori and others); "Neural Networks in Telecommunications: Applying Adaptive AI"

(T. Loofbourrow); "The Use of Hybrid Intelligent Systems in Telecommunications" (R. Weihmayer and H. Velthuijsen); and "Learning Agents for Telecommunication" (M. R. Adler and W. J. Frawley). An author index and an affiliation index are also provided. (AEF)
ER -

TY - JOUR
ID - 41
A1 - Fidel,R.
A1 - Efthimiadis,E.N.
T1 - Terminological Knowledge Structure for Intermediary Expert Systems
JF - Information Processing & Management
Y1 - 1995/ /
VL - 31
SP - 15
EP - 27
RP - Not in File
KW - Expert systems
KW - Automatic Indexing
KW - Classification
KW - Indexes
KW - Indexing
KW - Research Needs
KW - Thesauri
KW - Databases
KW - Information Retrieval
KW - Online Searching
KW - Experts
KW - Frequency Data
KW - Hedges Search Technique
KW - Knowledge Bases
KW - Knowledge Acquisition
KW - Search Keys
N1 - Examines the knowledge base of an intermediary expert system that provides advice about search term selection. Topics include a proposal for an integrated approach, including an option focusing on terminological attributes based on knowledge acquired from professional searchers; and the content of the knowledge base and the research needed to support its development. (53 references) (KRN)
ER -

TY - JOUR
ID - 42
A1 - Meghabghab,G.V.
A1 - Meghabghab,D.B.
T1 - INN: An Intelligent Negotiating Neural Network for Information Systems: A Design Model
JF - Information Processing and Management
Y1 - 1994/ /
VL - 30
SP - 663
EP - 685
RP - Not in File
KW - Information systems
KW - Models
KW - Illustrations
KW - Library Catalogs
KW - Online Catalogs

KW - Problems
KW - Reference Services
KW - Screen Design Computers
KW - Users Information
KW - Use Studies
KW - Computer System Design
KW - Expert systems
KW - Information Retrieval
KW - Man Machine Systems
KW - Subject Index Terms
KW - Examples
KW - Neural Networks
KW - Query Formulations
KW - Query Negotiation Library Science
N1 - Presents an Intelligent Negotiating Neural Network Design Model for solving the problem of poor information retrieval in subject searches of online catalogs. The purpose of the network, its architecture, and three different sessions of the user interface are described. Nineteen figures showing screens of the three sessions are appended. (Contains 42 references.) (KRN)
ER -

TY - JOUR
ID - 43
A1 - Chen,H.
A1 - And Others
T1 - Explaining and Alleviating Information Management Indeterminism: A Knowledge-Based Framework
JF - Information Processing and Management
Y1 - 1994/ /
VL - 30
SP - 557
EP - 577
RP - Not in File
KW - Classification
KW - Database Management Systems
KW - Information systems
KW - Problems
KW - Research and Development
KW - Expert systems
KW - Information Management
KW - Online Systems
KW - Computer Assisted Management
N1 - Reports on two empirical studies that examined the nature and causes of information management indeterminism in an online research environment. A knowledge-based design for alleviating indeterminism which contains a system-generated thesaurus and an inferencing engine is proposed. (Contains 63 references.) (JLB)
ER -

TY - JOUR
ID - 44
A1 - Khoo,C.S.G.
A1 - Poo,D.C.C.
T1 - An Expert System Approach to Online Catalog Subject Searching
JF - Information Processing and Management
Y1 - 1994/ /
VL - 30

SP - 223
EP - 238
RP - Not in File
KW - Experts
KW - Expert systems
KW - Higher Education
KW - Literature Reviews
KW - Library Catalogs
KW - Online Catalogs
KW - Search Strategies
KW - Subject Index Terms
KW - National University of Singapore
KW - Natural Language
KW - Prototypes
N1 - Reviews methods to improve online catalogs for subject searching and describes the design of an expert system front-end to improve subject access in online public access catalogs that focuses on search strategies. Implementation of a prototype system at the National University of Singapore is described, and reformulation strategies are discussed. (Contains 25 references.) (LRW)
ER -

TY - JOUR
ID - 45
A1 - Gunning,K.
A1 - And Others
T1 - Networked Electronic Information Systems at the University of Houston Libraries: The IRIS Project and Beyond
JF - Library Hi Tech
Y1 - 1993/ /
VL - 11
SP - 49
EP - 55,83
RP - Not in File
KW - Information systems
KW - Access to Information
KW - College Libraries
KW - Computer Networks
KW - Computer System Design
KW - Databases
KW - Evaluation
KW - Higher Education
KW - Online Catalogs
KW - Performance Factors
KW - User Needs Information
KW - User Satisfaction Information
KW - Expert systems
KW - Library Automation
KW - Library Services
KW - Online Searching
KW - Optical Data Disks
KW - Reference Services
KW - Internet
KW - University of Houston TX
KW - CD ROM
KW - Tests

KW - Experts
N1 - Provides an overview of the IRIS (Intelligent Reference Information System) project at the University of Houston (Texas) libraries; describes CD-ROM database performance tests, user reactions to the CD-ROM network, and a survey of users of an expert system to recommend reference sources; and reports on current activities and future plans. (Contains nine references.) (EAM)
ER -

TY - JOUR
ID - 46
A1 - Richardson,J.A.
A1 - And Others
T1 - MultiLIS: 21 Years in the Making
JF - Library Hi Tech
Y1 - 1993/ /
VL - 11
SP - 21
EP - 48
RP - Not in File
KW - Academic Libraries
KW - Decision Making
KW - Elementary Secondary Education
KW - Expert systems
KW - Foreign Countries
KW - Higher Education
KW - Library Networks
KW - Online Catalogs
KW - School Districts
KW - Technological Advancement
KW - Telecommunications
KW - Integrated Library Systems
KW - Library Automation
KW - Canada
KW - Decision Support Systems
KW - Historical Background
KW - State University of New York
KW - United States
KW - MultiLIS
KW - Experts
N1 - Describes MultiLIS, an integrated library system. Five sidebars discuss the State University of New York (SUNY) Library Automation Implementation Program, Frame Relay telecommunications technology, the Expert Choice Decision Support System, tools for enhancement of data quality in online catalogs, and library automation in the Saskatoon (Canada) school system. (EAM)
ER -

TY - JOUR
ID - 47
A1 - McCrank,L.J.
T1 - Reference Expertise: Paradigms, Strategies, and Systems
JF - Reference Librarian
Y1 - 1993/ /
SP - 11
EP - 42
RP - Not in File
KW - Academic Libraries

KW - Decision Making
KW - Higher Education
KW - Models
KW - Search Strategies
KW - Expert systems
KW - Library Education
KW - Library Services
KW - Reference Services
KW - Decision Support Systems
KW - Query Analysis
KW - Experts
N1 - Explores the significance of expert system design for library reference services and library education, focusing on model logic and modeling for query analysis. The approaches of some graduate library schools are reviewed. Appendices included a decision-support module, a reference module component, and a typology of queries and reference tools. (Contains 52 references.) (EAM)
ER -

TY - JOUR
ID - 48
A1 - Gauch,S.
A1 - Smith,J.B.
T1 - An Expert System for Automatic Query Reformation
JF - Journal of the American Society for Information Science
Y1 - 1993/ /
VL - 44
SP - 124
EP - 136
RP - Not in File
KW - Experts
KW - Expert systems
KW - Performance
KW - Research Needs
KW - Online Searching
KW - Relevance Information Retrieval
KW - Search Strategies
KW - Prototypes
KW - Ranking
KW - Improvement
N1 - Investigates performance of online searchers using a prototype expert system that automatically reformulates queries to improve results and ranks retrieved passages to speed identification of relevant information. Results indicated that the system significantly reduced the number of queries needed, produced marginally significant improvements in precision, and ranked relevant passages over irrelevant passages. (36 references) (KRN)
ER -

TY - JOUR
ID - 49
A1 - Hawks,C.P.
T1 - In Support of Collection Assessment: The Role of Automation in the Acquisitions and Serials Departments
JF - Journal of Library Administration
Y1 - 1992/ /
VL - 17
SP - 13

EP - 30
RP - Not in File
KW - Cost Indexes
KW - Databases
KW - Expert systems
KW - Online Systems
KW - Optical Data Disks
KW - Library Acquisition
KW - Library Automation
KW - Library Collection Development
KW - Serials
KW - Approval Plans
KW - Library Policy
KW - Vendors
KW - Workstations
KW - Experts
N1 - Describes the role of automation in library acquisitions and serials departments in support of collection development. Highlights include workstations and expert systems; links to external databases; vendor services, including serials services and online review and selection of approval books; and automated access to collection development policies and price indices. (22 references) (LRW)
ER -

TY - JOUR
ID - 50
A1 - Borah,E.G.
T1 - Beyond Navigation: Librarians as Architects of Information Tools
JF - Research Strategies
Y1 - 1992/ /
VL - 10
SP - 138
EP - 142
RP - Not in File
KW - Academic Libraries
KW - Business
KW - Higher Education
KW - Indexes
KW - Information Retrieval
KW - Optical Data Disks
KW - Computer Software
KW - Databases
KW - Expert systems
KW - Librarians
KW - Reference Services
KW - Users Information
KW - University of California Los Angeles
KW - Experts
N1 - Argues that librarians should and can develop new electronic information products to meet their users' needs and describes the development of three such products at the Graduate School of Management Library at the University of California, Los Angeles (UCLA)--the RATIOS file, the REF-LITE Project, and the expert system Who?Biz. (EA)
ER -

TY - JOUR
ID - 52

A1 - Bailey,C.W.,Jr
T1 - The Intelligent Reference Information System Project. A Merger of CD-ROM LAN and Expert System Technologies
JF - Information Technology and Libraries
Y1 - 1992/ /
VL - 11
SP - 237
EP - 244
RP - Not in File
KW - Information systems
KW - CD ROM
KW - Experts
KW - Expert systems
KW - College Libraries
KW - Databases
KW - Futures of Society
KW - Higher Education
KW - Local Area Networks
KW - Computer System Design
KW - Library Services
KW - Optical Data Disks
KW - Reference Services
KW - Prototypes
KW - University of Houston TX
KW - User Preferences
KW - Workstations
KW - Evaluation
KW - Performance
N1 - Describes the development of a prototype Intelligent Reference Information System (IRIS) at the University of Houston library which integrated a CD-ROM local area network (LAN) and expert system technologies. Evaluations of the CD-ROM LAN performance and user reactions are reported, and possible future developments are discussed. (13 references) (LRW)
ER -

TY - JOUR
ID - 53
A1 - Gunning,K.
T1 - The Intelligent Reference Information System: The Effect on Public Services of Implementing a CD-ROM LAN and Expert System
JF - Library Administration & Management
Y1 - 1992/ /
VL - 6
SP - 146
EP - 153
RP - Not in File
KW - Information systems
KW - CD ROM
KW - Experts
KW - Expert systems
KW - College Libraries
KW - Computer Software
KW - Higher Education
KW - Library Collection Development
KW - Library Instruction

KW - Online Systems
KW - Library Administration
KW - Library Services
KW - Local Area Networks
KW - Optical Data Disks
KW - Reference Services
KW - University of Houston TX
KW - Databases
N1 - Describes the Intelligent Reference Information System (IRIS) at the University of Houston libraries which includes a local area network of CD-ROM databases and an expert system to recommend reference sources. Effects of IRIS on public services management, bibliographic instruction, and collection development are discussed; and network licensing, software design, and access issues are considered. (three references) (MES)
ER -

TY - JOUR
ID - 54
A1 - Smeaton,A.F.
T1 - Prospects for Intelligent, Language-Based Information Retrieval
JF - Online Review
Y1 - 1991/ /
VL - 15
SP - 373
EP - 382
RP - Not in File
KW - Information Retrieval
KW - Expert systems
KW - Information Storage
KW - Online Systems
KW - Syntax
KW - Computational Linguistics
KW - Language Processing
KW - Man Machine Systems
KW - Semantics
KW - Natural Language Processing
KW - Natural Language
KW - Indexing
N1 - Unlike conventional information retrieval systems, natural language processing (NLP) systems translate queries automatically into the language of the system. This paper discusses the potential impact of NLP on both the indexing and retrieval of text and examines some current NLP projects and systems that have established knowledge bases in narrow domains. (18 references) (LAE)
ER -

TY - JOUR
ID - 55
A1 - Zahir,S.
A1 - Chang,C.L.
T1 - Online-Expert: An Expert System for Online Database Selection
JF - Journal of the American Society for Information Science
Y1 - 1992/ /
VL - 43
SP - 340
EP - 357
RP - Not in File

KW - Experts
KW - Expert systems
KW - Databases
KW - Decision Making
KW - Models
KW - Online Vendors
KW - Search Strategies
KW - Selection
KW - Tables Data
KW - Users Information
KW - Computer System Design
KW - Online Searching
KW - Online Systems
KW - User Needs Information
KW - Knowledge Acquisition
KW - Knowledge Bases
KW - Prototypes
KW - Rank Order
KW - Weighted Data
KW - Decision Analysis Technique
KW - Vendors
AV - ITESM-Centro de Información Biblioteca y Educational Resources Information Center de SilverPlatter
N1 - Describes the design and development of a prototype expert system called ONLINE-EXPERT that helps users select online databases and vendors that meet users' needs. Search strategies are discussed; knowledge acquisition and knowledge bases are described; and the Analytic Hierarchy Process (AHP), a decision analysis technique that ranks databases, is explained. (28 references) (LRW)
ER -

TY - JOUR
ID - 56
A1 - Buboltz,D.
A1 - And Others
T1 - Teaching Library Skills for the 1990s
JF - Book Report
Y1 - 1991/ /
VL - 10
SP - 13
EP - 15,17,19
RP - Not in File
KW - Computer Assisted Instruction
KW - Expert systems
KW - Junior High Schools
KW - Learning Activities
KW - Learning Resources Centers
KW - Library Automation
KW - Library Services
KW - Middle Schools
KW - Online Systems
KW - Reference Services
KW - Search Strategies
KW - Secondary Education
KW - Thinking Skills
KW - Library Instruction

KW - Library Skills
KW - School Libraries
KW - Information Skills
KW - Librarian Teacher Cooperation
KW - Printed Materials
KW - Experts
N1 - Includes 10 articles that address issues involved in teaching library skills in middle schools and junior and senior high schools. Topics discussed include computer-based technology; blending print and electronic sources; search strategies for online systems; expert systems for reference questions; information skills and thinking skills; and teacher/librarian cooperation. (LRW)
ER -

TY - JOUR
ID - 57
A1 - Gauch,S.
T1 - Intelligent Information Retrieval: An Introduction
JF - Journal of the American Society for Information Science
Y1 - 1992/ /
VL - 43
SP - 175
EP - 182
RP - Not in File
KW - Information Retrieval
KW - Bibliographic Databases
KW - Cancer
KW - Computer Science
KW - Expert systems
KW - Full Text Databases
KW - Pollution
KW - Public Libraries
KW - Search Strategies
KW - Artificial intelligence
KW - Online Systems
KW - Users Information
KW - Corporations
KW - Gardening
KW - Knowledge Representation
KW - MEDLINE
KW - Natural Language Processing
KW - Experts
N1 - Discusses the application of artificial intelligence to online information retrieval systems and describes several systems: (1) CANSEARCH, from MEDLINE; (2) Intelligent Interface for Information Retrieval (I3R); (3) Gausch's Query Reformulation; (4) Environmental Pollution Expert (EP-X); (5) PLEXUS (gardening); and (6) SCISOR (corporate information). Knowledge representation and sample interactions are discussed for each system. (25 references) (LRW)
ER -

TY - JOUR
ID - 58
A1 - Drenth,H.
A1 - And Others
T1 - Expert Systems as Information Intermediaries
JF - Annual Review of Information Science and Technology
Y1 - 1991/ /

VL - 26
SP - 113
EP - 154
RP - Not in File
KW - Experts
KW - Expert systems
KW - Information Technology
KW - Online Systems
KW - Search Strategies
KW - Literature Reviews
KW - Online Searching
KW - Knowledge Representation
KW - Prototypes
KW - Search Intermediaries
KW - Models
KW - Performance
KW - Information Retrieval
N1 - Examines how the use of expert systems has been applied to model the performance of an online search intermediary. Types of knowledge representation used in expert systems are reviewed, the role of the intermediary in online information retrieval is discussed, and both prototype and operational intermediary systems are described. (152 references) (LRW)
ER -

TY - JOUR
ID - 59
A1 - Morris,A.
T1 - Expert Systems for Library and Information Services--A Review
JF - Information Processing and Management
Y1 - 1991/ /
VL - 27
SP - 713
EP - 724
RP - Not in File
KW - Experts
KW - Expert systems
KW - Abstracting
KW - Bibliographic Utilities
KW - Cataloging
KW - Classification
KW - Computer Software
KW - Gateway Systems
KW - Indexing
KW - Library Services
KW - Online Searching
KW - Reference Services
KW - Library Automation
KW - Computer Assisted Cataloging
KW - Information Retrieval
N1 - This paper reviews the progress made so far in the development and use of expert systems for library and information services in the areas of online information retrieval, including gateway software and intelligent front-ends; cataloging, including bibliographic utilities and machine-aided cataloging; abstracting; reference work; and indexing and classification. (103 references) (LRW)
ER -

TY - JOUR
ID - 60
A1 - Anvari,M.
T1 - A Database Model for Medical Consultation
JF - Journal of the American Society for Information Science
Y1 - 1991/ /
VL - 42
SP - 554
EP - 557
RP - Not in File
KW - Databases
KW - Models
KW - Clinical Diagnosis
KW - Expert systems
KW - Medical Evaluation
KW - Online Systems
KW - Examples
KW - Eye Infections
KW - Fuzzy Concepts
KW - Fuzzy Set Theory
KW - Knowledge Representation
KW - Relational Databases
KW - Relational Models
N1 - Describes a relational data model that can be used for knowledge representation and manipulation in rule-based medical consultation systems. Fuzzy queries or attribute values and fuzzy set theory are discussed, functional dependencies are described, and an example is presented of a system for diagnosing causes of eye inflammation. (15 references) (LRW)
ER -

TY - JOUR
ID - 61
A1 - Fidel,R.
T1 - Searchers' Selection of Search Keys. I. The Selection Routine; II. Controlled Vocabulary or Free-Text Searching; and III. Searching Styles
JF - Journal of the American Society for Information Science
Y1 - 1991/ /
VL - 42
SP - 490
EP - 527
RP - Not in File
KW - Selection
KW - Search Keys
KW - Case Studies
KW - Expert systems
KW - Full Text Databases
KW - Interviews
KW - Observation
KW - Relevance Information Retrieval
KW - Subject Index Terms
KW - Thesauri
KW - Online Searching
KW - Search Strategies
N1 - These three articles discuss online search key selection based on observations of professional online searchers, interviews, and analyses of the verbal and search protocols involved. The selection routine is

described, the use of controlled vocabulary versus free text searching is examined, and searching styles are discussed. (44 references) (LRW)
ER -

TY - BOOK
ID - 62
A1 - Spector,J.M.
A1 - And Others
T1 - An Automated Approach to Instructional Design Guidance
Y1 - 1993/ /
RP - Not in File
KW - Artificial intelligence
KW - Authoring Aids Programing
KW - Automation
KW - Online Systems
KW - Computer Assisted Instruction
KW - Computer Software Development
KW - Courseware
KW - Expert systems
KW - Instructional Design
KW - Military Training
KW - Air Force Human Resources Laboratory
KW - IDD Advisor
KW - Interactive Systems
KW - Instructional Systems Development
KW - Examples
KW - Classification
KW - Evaluation
N1 - This paper describes the Guided Approach to Instructional Design Advising (GAIDA), an automated instructional design tool that incorporates techniques of artificial intelligence. GAIDA was developed by the U.S. Air Force Armstrong Laboratory to facilitate the planning and production of interactive courseware and computer-based training materials. The tool is a case-based system that incorporates a short exposition of Gagne's nine events of instruction and four complete examples of applying the nine events to identification of naval insignia, classifications of electronic resistors, checklist procedure for the F-16 Gatling gun, and procedure for testing a patient's respiratory capacity using a spirometer. The paper covers (1) the issues involved in developing an automated instructional design advisor; (2) the results of Gagne's evaluation of the initial GAIDA case (the checklist for the F-16 gun); (3) a description of how GAIDA has been redesigned; and (4) how GAIDA will be used in future instructional design research and development projects. (Contains 18 references.) (KRN)
ER -

TY - BOOK
ID - 63
A1 - Lancaster,F.W.,Ed
A1 - Smith,L.C.,Ed
T1 - Artificial Intelligence and Expert Systems: Will They Change the Library? Papers Presented at the Annual Clinic on Library Applications of Data Processing (27th, Urbana, Illinois, March 25-27, 1990). Illinois, March 25-27, 1990)
Y1 - 1992/ /
RP - Not in File
KW - Artificial intelligence
KW - Experts
KW - Expert systems
KW - Cataloging

KW - Futures of Society
KW - Library Automation
KW - Library Collection Development
KW - Library Technical Processes
KW - Online Searching
KW - Reference Services
KW - Users Information
KW - Indexing
KW - Information Management
KW - Information Technology
KW - Document Delivery
KW - Knowledge Representation
KW - Natural Language Processing
KW - Databases
KW - Natural Language
KW - Language Processing
KW - Models
KW - Information systems
KW - Problems
KW - Indexes
N1 - Some of the 12 conference papers presented in this proceedings focus on the present and potential capabilities of artificial intelligence and expert systems as they relate to a wide range of library applications, including descriptive cataloging, technical services, collection development, subject indexing, reference services, database searching, and document delivery. Other papers deal with the underlying design issues of knowledge representation and natural language processing. The papers are; (1) "Artificial Intelligence: What Will They Think of Next?" (Douglas P. Metzler); (2) "Technical Services Processes as Models for Assessing Expert System Suitability and Benefits" (Charles Fenly); (3) "Automated Cataloging: Implications for Libraries and Patrons" (Stuart Weibel); (4) "Interactive Knowledge-Based Systems for Improved Subject Analysis and Retrieval" (Susanne M. Humphrey); (5) "Reference Expert Systems: Foundations in Reference Theory" (James R. Parrott); (6) "Expert Systems at the National Agricultural Library: Past, Present, and Future" (Samuel T. Waters); (7) "User Models for Information Systems: Prospects and Problems" (Christine L. Borgman and Yolanda I. Plute); (8) "Natural Language Processing: Current Status for Libraries" (Amy Warner); (9) "Knowledge Representation in Artificial Intelligence" (Irene L. Travis); (10) "Intelligent Interfaces to Online Databases" (Brian C. Vickery); (11) "Expert Systems in Document Delivery: The Feasibility of Learning Capabilities" (Jaime Pontigo, Ezequiel Tovar-Reyes, Guillermo Rodriquez, and Sergio Ortiz-Gama); and (12) "Walking Your Talk: Why Information Managers Are Not High Tech" (W. David Penniman). An index and brief author biographies conclude the volume; chapters include references. (KRN)
ER -

TY - JOUR
ID - 64
A1 - Richardson,J.V.,Jr
A1 - Reyes,R.B.
T1 - Government Information Expert Systems: A Quantitative Evaluation
JF - College & Research Libraries
Y1 - 1995/ /
VL - 56
SP - 235
EP - 247
RP - Not in File
KW - Experts
KW - Expert systems
KW - Evaluation

KW - Case Studies
KW - Comparative Analysis
KW - Information Sources
KW - Tests
KW - Government Publications
KW - Reference Materials
KW - Reference Services
KW - Question Answering
KW - United States
KW - Improvement
N1 - Two knowledge-based systems (KBS) are compared and contrasted; a test, based on 15 typical United States government document reference questions about the federal level of government, measured correct responses and keystroke efficiency. Concludes that there is a need for improvement of KBS in the government information field. (Author/AEF)
ER -

TY - JOUR
ID - 65
A1 - Meghabghab,G.V.
A1 - Meghabghab,D.B.
T1 - INN: An Intelligent Negotiating Neural Network for Information Systems: A Design Model
JF - Information Processing and Management
Y1 - 1994/ /
VL - 30
SP - 663
EP - 685
RP - Not in File
KW - Neural Networks
KW - Information systems
KW - Models
KW - Illustrations
KW - Library Catalogs
KW - Online Catalogs
KW - Problems
KW - Reference Services
KW - Screen Design Computers
KW - Users Information
KW - Use Studies
KW - Computer System Design
KW - Expert systems
KW - Information Retrieval
KW - Man Machine Systems
KW - Subject Index Terms
KW - Examples
KW - Query Formulations
KW - Query Negotiation Library Science
N1 - Presents an Intelligent Negotiating Neural Network Design Model for solving the problem of poor information retrieval in subject searches of online catalogs. The purpose of the network, its architecture, and three different sessions of the user interface are described. Nineteen figures showing screens of the three sessions are appended. (Contains 42 references.) (KRN)
ER -

TY - JOUR
ID - 66

A1 - Gunning,K.
A1 - And Others
T1 - Networked Electronic Information Systems at the University of Houston Libraries: The IRIS Project and Beyond
JF - Library Hi Tech
Y1 - 1993/ /
VL - 11
SP - 49
EP - 55,83
RP - Not in File
KW - Information systems
KW - Access to Information
KW - College Libraries
KW - Computer Networks
KW - Computer System Design
KW - Databases
KW - Evaluation
KW - Higher Education
KW - Online Catalogs
KW - Performance Factors
KW - User Needs Information
KW - User Satisfaction Information
KW - Expert systems
KW - Library Automation
KW - Library Services
KW - Online Searching
KW - Optical Data Disks
KW - Reference Services
KW - Internet
KW - University of Houston TX
KW - CD ROM
KW - Performance
KW - Tests
KW - Experts
N1 - Provides an overview of the IRIS (Intelligent Reference Information System) project at the University of Houston (Texas) libraries; describes CD-ROM database performance tests, user reactions to the CD-ROM network, and a survey of users of an expert system to recommend reference sources; and reports on current activities and future plans. (Contains nine references.) (EAM)
ER -

TY - JOUR
ID - 67
A1 - McCrank,L.J.
T1 - Reference Expertise: Paradigms, Strategies, and Systems
JF - Reference Librarian
Y1 - 1993/ /
SP - 11
EP - 42
RP - Not in File
KW - Academic Libraries
KW - Decision Making
KW - Higher Education
KW - Models
KW - Search Strategies

KW - Expert systems
KW - Library Education
KW - Library Services
KW - Reference Services
KW - Decision Support Systems
KW - Query Analysis
KW - Experts
N1 - Explores the significance of expert system design for library reference services and library education, focusing on model logic and modeling for query analysis. The approaches of some graduate library schools are reviewed. Appendices included a decision-support module, a reference module component, and a typology of queries and reference tools. (Contains 52 references.) (EAM)
ER -

TY - JOUR
ID - 68
A1 - Borah,E.G.
T1 - Beyond Navigation: Librarians as Architects of Information Tools
JF - Research Strategies
Y1 - 1992/ /
VL - 10
SP - 138
EP - 142
RP - Not in File
KW - Librarians
KW - Academic Libraries
KW - Business
KW - Higher Education
KW - Indexes
KW - Information Retrieval
KW - Optical Data Disks
KW - Computer Software
KW - Databases
KW - Expert systems
KW - Reference Services
KW - Users Information
KW - University of California Los Angeles
KW - Experts
N1 - Argues that librarians should and can develop new electronic information products to meet their users' needs and describes the development of three such products at the Graduate School of Management Library at the University of California, Los Angeles (UCLA)--the RATIOS file, the REF-LITE Project, and the expert system Who?Biz. (EA)
ER -

TY - JOUR
ID - 70
A1 - Gunning,K.
T1 - The Intelligent Reference Information System: The Effect on Public Services of Implementing a CD-ROM LAN and Expert System
JF - Library Administration & Management
Y1 - 1992/ /
VL - 6
SP - 146
EP - 153
RP - Not in File

KW - Information systems
KW - CD ROM
KW - Experts
KW - Expert systems
KW - College Libraries
KW - Computer Software
KW - Higher Education
KW - Library Collection Development
KW - Library Instruction
KW - Online Systems
KW - Library Administration
KW - Library Services
KW - Local Area Networks
KW - Optical Data Disks
KW - Reference Services
KW - University of Houston TX
KW - Databases
N1 - Describes the Intelligent Reference Information System (IRIS) at the University of Houston libraries which includes a local area network of CD-ROM databases and an expert system to recommend reference sources. Effects of IRIS on public services management, bibliographic instruction, and collection development are discussed; and network licensing, software design, and access issues are considered. (three references) (MES)
ER -

TY - JOUR
ID - 71
A1 - Buboltz,D.
A1 - And Others
T1 - Teaching Library Skills for the 1990s
JF - Book Report
Y1 - 1991/ /
VL - 10
SP - 13
EP - 15,17,19
RP - Not in File
KW - Library Skills
KW - Computer Assisted Instruction
KW - Expert systems
KW - Junior High Schools
KW - Learning Activities
KW - Learning Resources Centers
KW - Library Automation
KW - Library Services
KW - Middle Schools
KW - Online Systems
KW - Reference Services
KW - Search Strategies
KW - Secondary Education
KW - Thinking Skills
KW - Library Instruction
KW - School Libraries
KW - Information Skills
KW - Librarian Teacher Cooperation
KW - Printed Materials

KW - Experts
N1 - Includes 10 articles that address issues involved in teaching library skills in middle schools and junior and senior high schools. Topics discussed include computer-based technology; blending print and electronic sources; search strategies for online systems; expert systems for reference questions; information skills and thinking skills; and teacher/librarian cooperation. (LRW)
ER -

TY - JOUR
ID - 72
A1 - Morris,A.
T1 - Expert Systems for Library and Information Services--A Review
JF - Information Processing and Management
Y1 - 1991/ /
VL - 27
SP - 713
EP - 724
RP - Not in File
KW - Experts
KW - Expert systems
KW - Abstracting
KW - Bibliographic Utilities
KW - Cataloging
KW - Classification
KW - Computer Software
KW - Gateway Systems
KW - Indexing
KW - Library Services
KW - Online Searching
KW - Reference Services
KW - Library Automation
KW - Computer Assisted Cataloging
KW - Information Retrieval
N1 - This paper reviews the progress made so far in the development and use of expert systems for library and information services in the areas of online information retrieval, including gateway software and intelligent front-ends; cataloging, including bibliographic utilities and machine-aided cataloging; abstracting; reference work; and indexing and classification. (103 references) (LRW)
ER -

TY - BOOK
ID - 73
A1 - Lancaster,F.W.,Ed
A1 - Smith,L.C.,Ed
T1 - Artificial Intelligence and Expert Systems: Will They Change the Library? Papers Presented at the Annual Clinic on Library Applications of Data Processing (27th, Urbana, Illinois, March 25-27, 1990). Illinois, March 25-27, 1990)
Y1 - 1992/ /
RP - Not in File
KW - Artificial intelligence
KW - Experts
KW - Expert systems
KW - Cataloging
KW - Futures of Society
KW - Library Automation
KW - Library Collection Development

KW - Library Technical Processes
KW - Online Searching
KW - Reference Services
KW - Users Information
KW - Indexing
KW - Information Management
KW - Information Technology
KW - Document Delivery
KW - Knowledge Representation
KW - Natural Language Processing
KW - Databases
KW - Natural Language
KW - Language Processing
KW - Models
KW - Information systems
KW - Problems
KW - Indexes
N1 - Some of the 12 conference papers presented in this proceedings focus on the present and potential capabilities of artificial intelligence and expert systems as they relate to a wide range of library applications, including descriptive cataloging, technical services, collection development, subject indexing, reference services, database searching, and document delivery. Other papers deal with the underlying design issues of knowledge representation and natural language processing. The papers are; (1) "Artificial Intelligence: What Will They Think of Next?" (Douglas P. Metzler); (2) "Technical Services Processes as Models for Assessing Expert System Suitability and Benefits" (Charles Fenly); (3) "Automated Cataloging: Implications for Libraries and Patrons" (Stuart Weibel); (4) "Interactive Knowledge-Based Systems for Improved Subject Analysis and Retrieval" (Susanne M. Humphrey); (5) "Reference Expert Systems: Foundations in Reference Theory" (James R. Parrott); (6) "Expert Systems at the National Agricultural Library: Past, Present, and Future" (Samuel T. Waters); (7) "User Models for Information Systems: Prospects and Problems" (Christine L. Borgman and Yolanda I. Plute); (8) "Natural Language Processing: Current Status for Libraries" (Amy Warner); (9) "Knowledge Representation in Artificial Intelligence" (Irene L. Travis); (10) "Intelligent Interfaces to Online Databases" (Brian C. Vickery); (11) "Expert Systems in Document Delivery: The Feasibility of Learning Capabilities" (Jaime Pontigo, Ezequiel Tovar-Reyes, Guillermo Rodriquez, and Sergio Ortiz-Gama); and (12) "Walking Your Talk: Why Information Managers Are Not High Tech" (W. David Penniman). An index and brief author biographies conclude the volume; chapters include references. (KRN)
ER -

TY - JOUR
ID - 74
A1 - Meghabghab,G.V.
A1 - Meghabghab,D.B.
T1 - INN: An Intelligent Negotiating Neural Network for Information Systems: A Design Model
JF - Information Processing and Management
Y1 - 1994/ /
VL - 30
SP - 663
EP - 685
RP - Not in File
KW - Neural Networks
KW - Information systems
KW - Models
KW - Illustrations
KW - Library Catalogs
KW - Online Catalogs

KW - Problems
KW - Reference Services
KW - Screen Design Computers
KW - Users Information
KW - Use Studies
KW - Computer System Design
KW - Expert systems
KW - Information Retrieval
KW - Man Machine Systems
KW - Subject Index Terms
KW - Examples
KW - Query Formulations
KW - Query Negotiation Library Science
N1 - Presents an Intelligent Negotiating Neural Network Design Model for solving the problem of poor information retrieval in subject searches of online catalogs. The purpose of the network, its architecture, and three different sessions of the user interface are described. Nineteen figures showing screens of the three sessions are appended. (Contains 42 references.) (KRN)
ER -

TY - JOUR
ID - 75
A1 - Gunning,K.
A1 - And Others
T1 - Networked Electronic Information Systems at the University of Houston Libraries: The IRIS Project and Beyond
JF - Library Hi Tech
Y1 - 1993/ /
VL - 11
SP - 49
EP - 55,83
RP - Not in File
KW - Information systems
KW - Access to Information
KW - College Libraries
KW - Computer Networks
KW - Computer System Design
KW - Databases
KW - Evaluation
KW - Higher Education
KW - Online Catalogs
KW - Performance Factors
KW - User Needs Information
KW - User Satisfaction Information
KW - Expert systems
KW - Library Automation
KW - Library Services
KW - Online Searching
KW - Optical Data Disks
KW - Reference Services
KW - Internet
KW - University of Houston TX
KW - CD ROM
KW - Performance
KW - Tests

KW - Experts
N1 - Provides an overview of the IRIS (Intelligent Reference Information System) project at the University of Houston (Texas) libraries; describes CD-ROM database performance tests, user reactions to the CD-ROM network, and a survey of users of an expert system to recommend reference sources; and reports on current activities and future plans. (Contains nine references.) (EAM)
ER -

TY - JOUR
ID - 76
A1 - McCrank,L.J.
T1 - Reference Expertise: Paradigms, Strategies, and Systems
JF - Reference Librarian
Y1 - 1993/ /
SP - 11
EP - 42
RP - Not in File
KW - Academic Libraries
KW - Decision Making
KW - Higher Education
KW - Models
KW - Search Strategies
KW - Expert systems
KW - Library Education
KW - Library Services
KW - Reference Services
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ER -

TY - JOUR
ID - 77
A1 - Borah,E.G.
T1 - Beyond Navigation: Librarians as Architects of Information Tools
JF - Research Strategies
Y1 - 1992/ /
VL - 10
SP - 138
EP - 142
RP - Not in File
KW - Librarians
KW - Academic Libraries
KW - Business
KW - Higher Education
KW - Indexes
KW - Information Retrieval
KW - Optical Data Disks
KW - Computer Software
KW - Databases
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N1 - Argues that librarians should and can develop new electronic information products to meet their users' needs and describes the development of three such products at the Graduate School of Management Library at the University of California, Los Angeles (UCLA)--the RATIOS file, the REF-LITE Project, and the expert system Who?Biz. (EA)
ER -

TY - JOUR
ID - 79
A1 - Gunning,K.
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JF - Library Administration & Management
Y1 - 1992/ /
VL - 6
SP - 146
EP - 153
RP - Not in File
KW - Information systems
KW - CD ROM
KW - Experts
KW - Expert systems
KW - College Libraries
KW - Computer Software
KW - Higher Education
KW - Library Collection Development
KW - Library Instruction
KW - Online Systems
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ER -

TY - JOUR
ID - 80
A1 - Buboltz,D.
A1 - And Others
T1 - Teaching Library Skills for the 1990s
JF - Book Report
Y1 - 1991/ /
VL - 10
SP - 13

EP - 15,17,19
RP - Not in File
KW - Library Skills
KW - Computer Assisted Instruction
KW - Expert systems
KW - Junior High Schools
KW - Learning Activities
KW - Learning Resources Centers
KW - Library Automation
KW - Library Services
KW - Middle Schools
KW - Online Systems
KW - Reference Services
KW - Search Strategies
KW - Secondary Education
KW - Thinking Skills
KW - Library Instruction
KW - School Libraries
KW - Information Skills
KW - Librarian Teacher Cooperation
KW - Printed Materials
KW - Experts
N1 - Includes 10 articles that address issues involved in teaching library skills in middle schools and junior and senior high schools. Topics discussed include computer-based technology; blending print and electronic sources; search strategies for online systems; expert systems for reference questions; information skills and thinking skills; and teacher/librarian cooperation. (LRW)
ER -

TY - JOUR
ID - 81
A1 - Morris,A.
T1 - Expert Systems for Library and Information Services--A Review
JF - Information Processing and Management
Y1 - 1991/ /
VL - 27
SP - 713
EP - 724
RP - Not in File
KW - Experts
KW - Expert systems
KW - Abstracting
KW - Bibliographic Utilities
KW - Cataloging
KW - Classification
KW - Computer Software
KW - Gateway Systems
KW - Indexing
KW - Library Services
KW - Online Searching
KW - Reference Services
KW - Library Automation
KW - Computer Assisted Cataloging
KW - Information Retrieval

N1 - This paper reviews the progress made so far in the development and use of expert systems for library and information services in the areas of online information retrieval, including gateway software and intelligent front-ends; cataloging, including bibliographic utilities and machine-aided cataloging; abstracting; reference work; and indexing and classification. (103 references) (LRW)
ER -

TY - BOOK
ID - 82
A1 - Lancaster,F.W.,Ed
A1 - Smith,L.C.,Ed
T1 - Artificial Intelligence and Expert Systems: Will They Change the Library? Papers Presented at the Annual Clinic on Library Applications of Data Processing (27th, Urbana, Illinois, March 25-27, 1990). Illinois, March 25-27, 1990)
Y1 - 1992/ /
RP - Not in File
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KW - Cataloging
KW - Futures of Society
KW - Library Automation
KW - Library Collection Development
KW - Library Technical Processes
KW - Online Searching
KW - Reference Services
KW - Users Information
KW - Indexing
KW - Information Management
KW - Information Technology
KW - Document Delivery
KW - Knowledge Representation
KW - Natural Language Processing
KW - Databases
KW - Natural Language
KW - Language Processing
KW - Models
KW - Information systems
KW - Problems
KW - Indexes
N1 - Some of the 12 conference papers presented in this proceedings focus on the present and potential capabilities of artificial intelligence and expert systems as they relate to a wide range of library applications, including descriptive cataloging, technical services, collection development, subject indexing, reference services, database searching, and document delivery. Other papers deal with the underlying design issues of knowledge representation and natural language processing. The papers are; (1) "Artificial Intelligence: What Will They Think of Next?" (Douglas P. Metzler); (2) "Technical Services Processes as Models for Assessing Expert System Suitability and Benefits" (Charles Fenly); (3) "Automated Cataloging: Implications for Libraries and Patrons" (Stuart Weibel); (4) "Interactive Knowledge-Based Systems for Improved Subject Analysis and Retrieval" (Susanne M. Humphrey); (5) "Reference Expert Systems: Foundations in Reference Theory" (James R. Parrott); (6) "Expert Systems at the National Agricultural Library: Past, Present, and Future" (Samuel T. Waters); (7) "User Models for Information Systems: Prospects and Problems" (Christine L. Borgman and Yolanda I. Plute); (8) "Natural Language Processing: Current Status for Libraries" (Amy Warner); (9) "Knowledge Representation in Artificial Intelligence" (Irene L. Travis); (10) "Intelligent Interfaces to Online Databases" (Brian C. Vickery); (11) "Expert Systems in Document Delivery: The Feasibility of Learning Capabilities" (Jaime Pontigo, Ezequiel Tovar-

Reyes, Guillermo Rodriquez, and Sergio Ortiz-Gama); and (12) "Walking Your Talk: Why Information Managers Are Not High Tech" (W. David Penniman). An index and brief author biographies conclude the volume; chapters include references. (KRN)
ER -

TY - JOUR
ID - 86
A1 - Duval,B.K.
A1 - Main,L.
T1 - Expert Systems: What Is an Expert System?
JF - Library Software Review
Y1 - 1994/ /
VL - 13
SP - 44
EP - 53
RP - Not in File
KW - Experts
KW - Expert systems
KW - Information Sources
KW - Man Machine Systems
KW - Microcomputers
KW - Programming Languages
KW - Library Automation
KW - Examples
KW - Vendors
KW - Expert System Shells
N1 - Describes expert systems and discusses their use in libraries. Highlights include parts of an expert system; expert system shells; an example of how to build an expert system; a bibliography of 34 sources of information on expert systems in libraries; and a list of 10 expert system shells used in libraries. (Contains five references.) (LRW)
ER -

TY - JOUR
ID - 87
A1 - Gunning,K.
A1 - And Others
T1 - Networked Electronic Information Systems at the University of Houston Libraries: The IRIS Project and Beyond
JF - Library Hi Tech
Y1 - 1993/ /
VL - 11
SP - 49
EP - 55,83
RP - Not in File
KW - Information systems
KW - Access to Information
KW - College Libraries
KW - Computer Networks
KW - Computer System Design
KW - Databases
KW - Evaluation
KW - Higher Education
KW - Online Catalogs
KW - Performance Factors

KW - User Needs Information
KW - User Satisfaction Information
KW - Expert systems
KW - Library Automation
KW - Library Services
KW - Online Searching
KW - Optical Data Disks
KW - Reference Services
KW - Internet
KW - University of Houston TX
KW - CD ROM
KW - Performance
KW - Tests
KW - Experts
N1 - Provides an overview of the IRIS (Intelligent Reference Information System) project at the University of Houston (Texas) libraries; describes CD-ROM database performance tests, user reactions to the CD-ROM network, and a survey of users of an expert system to recommend reference sources; and reports on current activities and future plans. (Contains nine references.) (EAM)
ER -

TY - JOUR
ID - 88
A1 - Richardson,J.A.
A1 - And Others
T1 - MultiLIS: 21 Years in the Making
JF - Library Hi Tech
Y1 - 1993/ /
VL - 11
SP - 21
EP - 48
RP - Not in File
KW - MultiLIS
KW - Academic Libraries
KW - Decision Making
KW - Elementary Secondary Education
KW - Expert systems
KW - Foreign Countries
KW - Higher Education
KW - Library Networks
KW - Online Catalogs
KW - School Districts
KW - Technological Advancement
KW - Telecommunications
KW - Integrated Library Systems
KW - Library Automation
KW - Canada
KW - Decision Support Systems
KW - Historical Background
KW - State University of New York
KW - United States
KW - Automation
KW - Experts
N1 - Describes MultiLIS, an integrated library system. Five sidebars discuss the State University of New York (SUNY) Library Automation Implementation Program, Frame Relay telecommunications technology,

the Expert Choice Decision Support System, tools for enhancement of data quality in online catalogs, and library automation in the Saskatoon (Canada) school system. (EAM)
ER -

TY - JOUR
ID - 89
A1 - Hawks,C.P.
T1 - In Support of Collection Assessment: The Role of Automation in the Acquisitions and Serials Departments
JF - Journal of Library Administration
Y1 - 1992/ /
VL - 17
SP - 13
EP - 30
RP - Not in File
KW - Automation
KW - Serials
KW - Cost Indexes
KW - Databases
KW - Expert systems
KW - Online Systems
KW - Optical Data Disks
KW - Library Acquisition
KW - Library Automation
KW - Library Collection Development
KW - Approval Plans
KW - Library Policy
KW - Vendors
KW - Workstations
KW - Experts
KW - Selection
N1 - Describes the role of automation in library acquisitions and serials departments in support of collection development. Highlights include workstations and expert systems; links to external databases; vendor services, including serials services and online review and selection of approval books; and automated access to collection development policies and price indices. (22 references) (LRW)
ER -

TY - JOUR
ID - 91
A1 - Simpson,C.W.
T1 - Technical Services Research, 1988-1991
JF - Library Resources and Technical Services
Y1 - 1992/ /
VL - 36
SP - 383
EP - 408
RP - Not in File
KW - Cataloging
KW - Classification
KW - Costs
KW - Expert systems
KW - Library Automation
KW - Library Catalogs
KW - Literature Reviews

KW - Online Catalogs
KW - Preservation
KW - Serials
KW - Shared Library Resources
KW - Subject Index Terms
KW - Library Research
KW - Library Technical Processes
KW - Approval Plans
KW - Authority Control Information
KW - Library Materials Conservation
KW - Library Organization
KW - Vendors
KW - Automation
KW - Experts
AV - ITESM-Centro de Información Biblioteca; UDEM-Biblioteca Central y Educational Resources Information Center de SilverPlatter
N1 - Reviews research published between 1988 and 1991 in technical services in the areas of acquisitions, including automation, costs, and vendor analysis; authority control; automation; cataloging, including costs and time analysis, rules and theory, expert systems, online catalogs, and shared cataloging; classification; preservation; serials; subject access; and technical services costs and organization. (106 references) (LRW)
ER -

TY - JOUR
ID - 92
A1 - Buboltz,D.
A1 - And Others
T1 - Teaching Library Skills for the 1990s
JF - Book Report
Y1 - 1991/ /
VL - 10
SP - 13
EP - 15,17,19
RP - Not in File
KW - Library Skills
KW - Computer Assisted Instruction
KW - Expert systems
KW - Junior High Schools
KW - Learning Activities
KW - Learning Resources Centers
KW - Library Automation
KW - Library Services
KW - Middle Schools
KW - Online Systems
KW - Reference Services
KW - Search Strategies
KW - Secondary Education
KW - Thinking Skills
KW - Library Instruction
KW - School Libraries
KW - Information Skills
KW - Librarian Teacher Cooperation
KW - Printed Materials
KW - Experts

N1 - Includes 10 articles that address issues involved in teaching library skills in middle schools and junior and senior high schools. Topics discussed include computer-based technology; blending print and electronic sources; search strategies for online systems; expert systems for reference questions; information skills and thinking skills; and teacher/librarian cooperation. (LRW)
ER -

TY - JOUR
ID - 93
A1 - DeBrower,A.M.
A1 - Jones,D.T.
T1 - Application of an Expert System to Collection Development: Donation Processing in a Special Library
JF - Library Software Review
Y1 - 1991/ /
VL - 10
SP - 384,386
EP - 89
RP - Not in File
KW - Experts
KW - College Libraries
KW - Computer System Design
KW - Cost Effectiveness
KW - Decision Making
KW - Higher Education
KW - Library Collection Development
KW - Library Expenditures
KW - Library Technical Processes
KW - Nonprofessional Personnel
KW - Scientific and Technical Information
KW - Expert systems
KW - Library Acquisition
KW - Library Automation
KW - Physics
KW - Special Libraries
KW - Johns Hopkins University MD
KW - Costs
KW - Performance
N1 - Describes a project at the library of the Applied Physics Laboratory (APL) at Johns Hopkins University that developed an expert system to conserve professional staff time and reduce processing costs by allowing gifts, or donations, to be processed by support staff. Decision-making factors are explained, and performance statistics are discussed. (four references) (LRW)
ER -

TY - JOUR
ID - 94
A1 - Morris,A.
T1 - Expert Systems for Library and Information Services--A Review
JF - Information Processing and Management
Y1 - 1991/ /
VL - 27
SP - 713
EP - 724
RP - Not in File
KW - Experts

KW - Expert systems
KW - Abstracting
KW - Bibliographic Utilities
KW - Cataloging
KW - Classification
KW - Computer Software
KW - Gateway Systems
KW - Indexing
KW - Library Services
KW - Online Searching
KW - Reference Services
KW - Library Automation
KW - Computer Assisted Cataloging
KW - Information Retrieval
N1 - This paper reviews the progress made so far in the development and use of expert systems for library and information services in the areas of online information retrieval, including gateway software and intelligent front-ends; cataloging, including bibliographic utilities and machine-aided cataloging; abstracting; reference work; and indexing and classification. (103 references) (LRW)
ER -

TY - BOOK
ID - 95
A1 - Lancaster,F.W.,Ed
A1 - Smith,L.C.,Ed
T1 - Artificial Intelligence and Expert Systems: Will They Change the Library? Papers Presented at the Annual Clinic on Library Applications of Data Processing (27th, Urbana, Illinois, March 25-27, 1990). Illinois, March 25-27, 1990)
Y1 - 1992/ /
RP - Not in File
KW - Artificial intelligence
KW - Experts
KW - Expert systems
KW - Cataloging
KW - Futures of Society
KW - Library Automation
KW - Library Collection Development
KW - Library Technical Processes
KW - Online Searching
KW - Reference Services
KW - Users Information
KW - Indexing
KW - Information Management
KW - Information Technology
KW - Document Delivery
KW - Knowledge Representation
KW - Natural Language Processing
KW - Databases
KW - Natural Language
KW - Language Processing
KW - Models
KW - Information systems
KW - Problems
KW - Indexes

N1 - Some of the 12 conference papers presented in this proceedings focus on the present and potential capabilities of artificial intelligence and expert systems as they relate to a wide range of library applications, including descriptive cataloging, technical services, collection development, subject indexing, reference services, database searching, and document delivery. Other papers deal with the underlying design issues of knowledge representation and natural language processing. The papers are; (1) "Artificial Intelligence: What Will They Think of Next?" (Douglas P. Metzler); (2) "Technical Services Processes as Models for Assessing Expert System Suitability and Benefits" (Charles Fenly); (3) "Automated Cataloging: Implications for Libraries and Patrons" (Stuart Weibel); (4) "Interactive Knowledge-Based Systems for Improved Subject Analysis and Retrieval" (Susanne M. Humphrey); (5) "Reference Expert Systems: Foundations in Reference Theory" (James R. Parrott); (6) "Expert Systems at the National Agricultural Library: Past, Present, and Future" (Samuel T. Waters); (7) "User Models for Information Systems: Prospects and Problems" (Christine L. Borgman and Yolanda I. Plute); (8) "Natural Language Processing: Current Status for Libraries" (Amy Warner); (9) "Knowledge Representation in Artificial Intelligence" (Irene L. Travis); (10) "Intelligent Interfaces to Online Databases" (Brian C. Vickery); (11) "Expert Systems in Document Delivery: The Feasibility of Learning Capabilities" (Jaime Pontigo, Ezequiel Tovar-Reyes, Guillermo Rodriquez, and Sergio Ortiz-Gama); and (12) "Walking Your Talk: Why Information Managers Are Not High Tech" (W. David Penniman). An index and brief author biographies conclude the volume; chapters include references. (KRN)
ER -

TY - JOUR
ID - 96
A1 - Adams,R.
T1 - Issues in Decision Support in Libraries
JF - Information Services and Use
Y1 - 1991/ /
VL - 11
SP - 43
EP - 49
RP - Not in File
KW - Academic Libraries
KW - Higher Education
KW - Man Machine Systems
KW - Models
KW - Resource Allocation
KW - User Needs Information
KW - Artificial intelligence
KW - Decision Making
KW - Library Administration
KW - Management Information Systems
KW - Problem Solving
KW - Decision Support Systems
N1 - Describes research at Leicester Polytechnic Institute (UK) which examined possible applications of decision support system tools in libraries; in particular, this research explored the role of decision support systems in relation to the development of resources allocation modelling. (five references) (MAB)
ER -

TY - BOOK
ID - 97
A1 - Lancaster,F.W.,Ed
A1 - Smith,L.C.,Ed
T1 - Artificial Intelligence and Expert Systems: Will They Change the Library? Papers Presented at the Annual Clinic on Library Applications of Data Processing (27th, Urbana, Illinois, March 25-27, 1990). Illinois, March 25-27, 1990)

Y1 - 1992/ /
RP - Not in File
KW - Artificial intelligence
KW - Experts
KW - Expert systems
KW - Cataloging
KW - Futures of Society
KW - Library Automation
KW - Library Collection Development
KW - Library Technical Processes
KW - Online Searching
KW - Reference Services
KW - Users Information
KW - Indexing
KW - Information Management
KW - Information Technology
KW - Document Delivery
KW - Knowledge Representation
KW - Natural Language Processing
KW - Databases
KW - Natural Language
KW - Language Processing
KW - Models
KW - Information systems
KW - Problems
KW - Indexes
N1 - Some of the 12 conference papers presented in this proceedings focus on the present and potential capabilities of artificial intelligence and expert systems as they relate to a wide range of library applications, including descriptive cataloging, technical services, collection development, subject indexing, reference services, database searching, and document delivery. Other papers deal with the underlying design issues of knowledge representation and natural language processing. The papers are; (1) "Artificial Intelligence: What Will They Think of Next?" (Douglas P. Metzler); (2) "Technical Services Processes as Models for Assessing Expert System Suitability and Benefits" (Charles Fenly); (3) "Automated Cataloging: Implications for Libraries and Patrons" (Stuart Weibel); (4) "Interactive Knowledge-Based Systems for Improved Subject Analysis and Retrieval" (Susanne M. Humphrey); (5) "Reference Expert Systems: Foundations in Reference Theory" (James R. Parrott); (6) "Expert Systems at the National Agricultural Library: Past, Present, and Future" (Samuel T. Waters); (7) "User Models for Information Systems: Prospects and Problems" (Christine L. Borgman and Yolanda I. Plute); (8) "Natural Language Processing: Current Status for Libraries" (Amy Warner); (9) "Knowledge Representation in Artificial Intelligence" (Irene L. Travis); (10) "Intelligent Interfaces to Online Databases" (Brian C. Vickery); (11) "Expert Systems in Document Delivery: The Feasibility of Learning Capabilities" (Jaime Pontigo, Ezequiel Tovar-Reyes, Guillermo Rodriquez, and Sergio Ortiz-Gama); and (12) "Walking Your Talk: Why Information Managers Are Not High Tech" (W. David Penniman). An index and brief author biographies conclude the volume; chapters include references. (KRN)
ER -

TY - BOOK
ID - 98
A1 - Vanasco,L.C.
T1 - Utilizing Technology: A Decision To Enhance Instruction
Y1 - 1990/ /
RP - Not in File
KW - Academic Libraries
KW - Artificial intelligence

KW - Computer Simulation
KW - Course Evaluation
KW - Decision Making
KW - Educational Research
KW - Higher Education
KW - Literature Reviews
KW - Computer Assisted Instruction
KW - Computer Literacy
KW - Computer Software
KW - Courseware
KW - Instructional Improvement
KW - Microcomputers
KW - Decision Support Systems
KW - Experts
KW - Business
KW - Databases
N1 - This review of the literature describes a number of ways in which microcomputers are being used to improve instruction. A discussion of types of software being used in instructional settings focuses primarily on the use of word processing programs by both instructors and students in writing. Descriptions of types of computer software that may be used in language learning include computer-assisted language learning (CALL) software; word processing for improving writing skills; software packages designed to improve grammar; and spreadsheets and other software that can be used to create graphs, charts, and slides to enhance oral presentations. The use of spreadsheets in financial and managerial analyses is also described, as well as the attributes and capabilities that make the computer an effective tool in teaching foreign languages. Several computer simulation games that are being used in management courses to facilitate decision making and a decision support system software package are then reviewed. A discussion of artificial intelligence highlights the development of the Expert Knowledge-Based System to help students learn management decision making skills for strategic planning in business. Advantages of online database systems and compact disks for instructors and researchers are briefly described, and a potential role for videodisks in libraries is indicated. Several ways in which schoolwork experiences with computers can be improved are suggested, and software packages that can be used in evaluating courses are briefly described. In conclusion, instructors are urged to encourage their students to exploit the tools that will increase their intellectual capabilities. Contains 26 endnotes. (ALF)
ER -

TY - JOUR
ID - 99
A1 - Wang,P.
A1 - Soergel,D.
T1 - Beyond Topical Relevance: Document Selection Behavior of Real Users of IR Systems
JF - Proceedings of the Asis Annual Meeting
Y1 - 1993/ /
VL - 30
SP - 87
EP - 92
RP - Not in File
KW - Selection
KW - Artificial intelligence
KW - Citations References
KW - Computer System Design
KW - Decision Making
KW - Evaluation Criteria
KW - Models
KW - Online Searching

KW - User Satisfaction Information
KW - Value Judgment
KW - Documentation
KW - Information Retrieval
KW - Relevance Information Retrieval
KW - Cognitive Models
KW - Document Handling
N1 - Describes a study of users' document selection behavior that was conducted to build a tentative cognitive model of document selection behavior to be used in designing intelligent information retrieval systems. Topics addressed include studies of relevance and of decision making; value judgments; and document information elements considered during utility judging. (Contains 24 references.) (LRW)
ER -

TY - JOUR
ID - 100
A1 - Chen,Z.
T1 - Let Documents Talk to Each Other: A Computer Model for Connection of Short Documents
JF - Journal of Documentation
Y1 - 1993/ /
VL - 49
SP - 44
EP - 54
RP - Not in File
KW - Models
KW - Artificial intelligence
KW - Comparative Analysis
KW - Information Retrieval
KW - Documentation
KW - Scientific and Technical Information
KW - Document Analysis
KW - Examples
KW - Prototypes
KW - Computer Models
KW - Connectivity
N1 - Discusses the integration of scientific texts through the connection of documents and describes a computer model that can connect short documents. Information retrieval and artificial intelligence are discussed; a prototype system of the model is explained; and the model is compared to other computer models. (17 references) (LRW)
ER -

TY - JOUR
ID - 101
A1 - Huston,M.M.
T1 - Windows into the Search Process: An Inquiry into Dimensions of Online Information Retrieval
JF - Online Review
Y1 - 1991/ /
VL - 15
SP - 227
EP - 243
RP - Not in File
KW - Information Retrieval
KW - Futures of Society
KW - Information Technology
KW - Models

KW - Research Needs
KW - Users Information
KW - Online Systems
KW - Search Strategies
KW - Cognitive Models
KW - Contextual Analysis
KW - Theoretical Analysis
N1 - Provides contextual frameworks for the nature of information technology, the information universe, and the information search as they relate to online information retrieval. Theories on search strategy are reviewed, cognitive models of information seeking are highlighted, and future directions for research on users' search processes are discussed. (61 references) (LRW)
ER -

TY - JOUR
ID - 102
A1 - Zabezhailo,M.I.
A1 - Finn,V.K.
T1 - Intelligent Information Systems
JF - International Forum on Information and Documentation
Y1 - 1996/ /
VL - 21
SP - 21
EP - 31
RP - Not in File
KW - Information systems
KW - Computation
KW - Computer Oriented Programs
KW - Ecology
KW - Futures of Society
KW - Information Technology
KW - Information Transfer
KW - Knowledge Representation
KW - Problem Solving
KW - Artificial intelligence
KW - Data Processing
KW - Expert systems
KW - Information Retrieval
KW - Information Storage
KW - Data Flow
KW - Data Warehousing
KW - Examples
KW - Standardization
KW - Research and Development
N1 - An Intelligent Information System (IIS) uses data warehouse technology to facilitate the cycle of data and knowledge processing, including input, standardization, storage, representation, retrieval, calculation, and delivery. This article provides an overview of IIS products and artificial intelligence systems, illustrates examples of IIS applications in ecology, and identifies paths of research and development. (LAM)
ER -

TY - JOUR
ID - 103
A1 - Meek,J.
T1 - Intelligent Agents, Internet Information and Interface
JF - Australian Journal of Educational Technology

Y1 - 1995/ /
VL - 11
SP - 75
EP - 90
RP - Not in File
KW - Internet
KW - Classification
KW - Computer Interfaces
KW - Creativity
KW - Futures of Society
KW - Indexing
KW - Information Retrieval
KW - Metaphors
KW - Artificial intelligence
KW - Computer Software
KW - Anthropomorphism
KW - Computer Mapping
KW - Information Overload
N1 - Reviews intelligent software agents and their relevance to networked information, particularly concerning future patterns of information gathering in research and education. Discussion of Internet information includes differing interfaces, the need for indexing, and map-making and information overload. Additional highlights include characteristics of intelligent agents; agent classification schemes; creativity; metaphors; and anthropomorphism. (Author/LRW)
ER -

TY - JOUR
ID - 104
A1 - Losee,R.M.
T1 - Learning Syntactic Rules and Tags with Genetic Algorithms for Information Retrieval and Filtering: An Empirical Basis for Grammatical Rules
JF - Information Processing & Management
Y1 - 1996/ /
VL - 32
SP - 185
EP - 197
RP - Not in File
KW - Information Retrieval
KW - Algorithms
KW - Artificial intelligence
KW - Expert systems
KW - Information systems
KW - Semantics
KW - Language Processing
KW - Structural Grammar
KW - Tagmemic Analysis
KW - Natural Languages
KW - Natural Language
N1 - The grammars of natural languages may be learned by using genetic algorithm systems such as LUST (Linguistics Using Sexual Techniques) that reproduce and mutate grammatical rules and parts-of-speech tags. In document retrieval or filtering systems, applying tags to the list of terms representing a document provides additional information about semantics and structure. (Author/AEF)
ER -

TY - JOUR

ID - 105
T1 - Abstracts of SIG Sessions
JF - Proceedings of the Asis Annual Meeting
Y1 - 1994/ /
VL - 31
SP - 79
EP - 101
RP - Not in File
KW - Abstracts
KW - Artificial intelligence
KW - Classification
KW - Computer Interfaces
KW - Information Retrieval
KW - Information Scientists
KW - Information systems
KW - Ownership
KW - Vocabulary
KW - Conferences
KW - Information Science
KW - Professional Associations
KW - Economics of Information
KW - Fuzzy Concepts
KW - Information Value
KW - Natural Language
KW - Telecommuting
KW - American Society for Information Science
KW - Special Interest Groups
KW - Language Processing
KW - Business
N1 - Includes abstracts of 18 special interest group (SIG) sessions. Highlights include natural language processing, information science and terminology science, classification, knowledge-intensive information systems, information value and ownership issues, economics and theories of information science, information retrieval interfaces, fuzzy thinking machines, telecommuting, information businesses, document fusion, and artificial intelligence. (LRW)
ER -

TY - JOUR
ID - 106
A1 - Chen,H.
T1 - Machine Learning for Information Retrieval: Neural Networks, Symbolic Learning, and Genetic Algorithms
JF - Journal of the American Society for Information Science
Y1 - 1995/ /
VL - 46
SP - 194
EP - 216
RP - Not in File
KW - Information Retrieval
KW - Neural Networks
KW - Algorithms
KW - Indexing
KW - Induction
KW - Information Processing
KW - Information Science

KW - Knowledge Representation
KW - Logical Thinking
KW - Artificial intelligence
N1 - Presents an overview of artificial-intelligence-based inductive learning techniques and their use in information science research. Three methods are discussed: the connectionist Hopfield network; the symbolic ID3/ID5R; evolution-based genetic algorithms. The knowledge representations and algorithms of these methods are examined in the context of information retrieval. (131 references) (Author/JKP)
ER -

TY - JOUR
ID - 107
A1 - Chandler,T.N.
T1 - The Science Education Advisor: Applying a User Centered Design Approach to the Development of an Interactive Case-Based Advising System
JF - Journal of Artificial Intelligence in Education
Y1 - 1994/ /
VL - 5
SP - 283
EP - 318
RP - Not in File
KW - Case Studies
KW - Computer Software
KW - Elementary Education
KW - Hypermedia
KW - Information Retrieval
KW - Science Activities
KW - Artificial intelligence
KW - Computer System Design
KW - Elementary School Science
KW - User Needs Information
KW - Conceptual Models
KW - Interactive Systems
KW - Hypertext
N1 - Explains how a user-centered approach to system design addressed the representational and strategic issues that arose when developing an artificial intelligence-based system, the Science Education Advisor, a case-based hypertext browsing system designed to collect and dispense ideas and advice for teaching elementary school science. (39 references) (LRW)
ER -

TY - JOUR
ID - 108
A1 - Roesler,M.
A1 - Hawkins,D.T.
T1 - Intelligent Agents: Software Servants for an Electronic Information World (And More!)
JF - Online
Y1 - 1994/ /
VL - 18
SP - 18
EP - 20,22,24
RP - Not in File
KW - Electronic Mail
KW - Higher Education
KW - Information Services
KW - Investment

KW - News Media
KW - Research and Development
KW - Scheduling
KW - Artificial intelligence
KW - Computer Software
KW - Information Retrieval
KW - American Telephone and Telegraph Company
KW - Apple Computer Inc
KW - Shopping
KW - Examples
N1 - Discusses the concept and characteristics of artificial intelligence software for information retrieval, news filtering, clerical support, personal shopping, and investment counseling. Research projects on artificial intelligence at six academic institutions and examples of nine retrieval agent software packages are highlighted. Sidebars discuss Apple Computer's "Knowledge Navigator" and AT&T's "PersonaLinks." (Contains 17 references.) (SLW)
ER -

TY - JOUR
ID - 109
A1 - Chen,Z.
T1 - Enhancing Database Management to Knowledge Base Management: The Role of Information Retrieval Technology
JF - Information Processing and Management
Y1 - 1994/ /
VL - 30
SP - 419
EP - 435
RP - Not in File
KW - Databases
KW - Database management
KW - Knowledge Bases
KW - Information Retrieval
KW - Research Needs
KW - Artificial intelligence
KW - Database Management Systems
KW - Information systems
KW - Conceptual Models
KW - Examples
KW - Knowledge Acquisition
KW - Relational Approach Information Retrieval
KW - Relational Databases
N1 - Investigates the role of information retrieval in the enhancement from database management to knowledge base management and considers the relationship between information retrieval and artificial intelligence. Highlights include unstructured databases; storage of internal forms of documents; an example with relational database operations; and intelligent information systems. (Contains 30 references.) (LRW)
ER -

TY - JOUR
ID - 110
A1 - Markoff,J.
T1 - The Fourth Law of Robotics
JF - Educom Review
Y1 - 1994/ /
VL - 29

SP - 45
EP - 46
RP - Not in File
KW - Costs
KW - Ethics
KW - Free Enterprise System
KW - Problems
KW - Technological Advancement
KW - Artificial intelligence
KW - Computer Networks
KW - Computer Software
KW - Information Networks
KW - Information Retrieval
KW - Robotics
KW - Economic Trends
KW - Technological Growth
KW - Internet
N1 - Discusses intelligent software agents, or knowledge robots (knowbots), and the impact they have on the Internet. Topics addressed include ethical dilemmas; problems created by rapid growth on the Internet; new technologies that are amplifying growth; and a shift to a market economy and resulting costs. (LRW)
ER -

TY - JOUR
ID - 111
A1 - Wang,P.
A1 - Soergel,D.
T1 - Beyond Topical Relevance: Document Selection Behavior of Real Users of IR Systems
JF - Proceedings of the Asis Annual Meeting
Y1 - 1993/ /
VL - 30
SP - 87
EP - 92
RP - Not in File
KW - Selection
KW - Artificial intelligence
KW - Citations References
KW - Computer System Design
KW - Decision Making
KW - Evaluation Criteria
KW - Models
KW - Online Searching
KW - User Satisfaction Information
KW - Value Judgment
KW - Documentation
KW - Information Retrieval
KW - Relevance Information Retrieval
KW - Cognitive Models
KW - Document Handling
N1 - Describes a study of users' document selection behavior that was conducted to build a tentative cognitive model of document selection behavior to be used in designing intelligent information retrieval systems. Topics addressed include studies of relevance and of decision making; value judgments; and document information elements considered during utility judging. (Contains 24 references.) (LRW)
ER -

TY - JOUR
ID - 112
A1 - Rosner,M.
A1 - Baj,F.
T1 - Portable AI Lab for Teaching Artificial Intelligence
JF - Education and Computing
Y1 - 1993/ /
VL - 8
SP - 347
EP - 355
RP - Not in File
KW - Artificial intelligence
KW - Computer Software
KW - Higher Education
KW - Interdisciplinary Approach
KW - Semantics
KW - Theories
KW - Computer Assisted Instruction
KW - Computer Science Education
KW - Augmented Transition Network Grammars
KW - Examples
KW - Natural Language Processing
KW - Parsing
KW - Documentation
KW - Natural Language
KW - Language Processing
N1 - Describes the Portable AI Lab, a computing environment containing artificial intelligence (AI) tools, examples, and documentation for use with university AI courses. Two modules of the lab are highlighted: the automated theorem proving module and the natural language processing module, which includes augmented transition networks. (23 references) (LRW)
ER -

TY - JOUR
ID - 113
A1 - Chen,Z.
T1 - A Conceptual Model for Storage and Retrieval of Short Scientific Texts
JF - Information Processing and Management
Y1 - 1993/ /
VL - 29
SP - 209
EP - 214
RP - Not in File
KW - Conceptual Models
KW - Models
KW - Artificial intelligence
KW - Comparative Analysis
KW - Science Materials
KW - Database Management Systems
KW - Information Retrieval
KW - Information Storage
KW - Natural Language Processing
N1 - Describes a conceptual model for integrating short scientific texts, which extends classical text storage and retrieval. A brief comparison with related approaches such as case-based reasoning and classification-based reasoning is also provided. (13 references) (Author/KRN)

ER -

TY - JOUR
ID - 114
A1 - Chen,Z.
T1 - Let Documents Talk to Each Other: A Computer Model for Connection of Short Documents
JF - Journal of Documentation
Y1 - 1993/ /
VL - 49
SP - 44
EP - 54
RP - Not in File
KW - Computer Models
KW - Models
KW - Artificial intelligence
KW - Comparative Analysis
KW - Information Retrieval
KW - Documentation
KW - Scientific and Technical Information
KW - Document Analysis
KW - Examples
KW - Prototypes
KW - Connectivity
N1 - Discusses the integration of scientific texts through the connection of documents and describes a computer model that can connect short documents. Information retrieval and artificial intelligence are discussed; a prototype system of the model is explained; and the model is compared to other computer models. (17 references) (LRW)
ER -

TY - JOUR
ID - 115
A1 - Suthers,D.D.
T1 - Automated Explanation for Educational Applications
JF - Journal of Computing in Higher Education
Y1 - 1991/ /
VL - 3
SP - 36
EP - 61
RP - Not in File
KW - Classroom Techniques
KW - Computer Software
KW - Higher Education
KW - Innovation
KW - Research and Development
KW - Science Instruction
KW - Artificial intelligence
KW - Computer Oriented Programs
KW - Educational Technology
KW - Information Retrieval
KW - Programing
KW - Explanations
N1 - Artificial intelligence techniques available for generating explanations for teaching purposes are surveyed, and the way in which they are combined in a computer program that provides explanations is

described. The program responds to questions in the physical sciences. Potential contributions of this technology to computer-based education are discussed. (Author/MSE)
ER -

TY - JOUR
ID - 116
A1 - Murray,A.J.
T1 - Cultivating the Electronic Heartland: Preparing for the Coming Knowledge Harvest
JF - Proceedings of the Asis Mid Year Meeting
Y1 - 1992/ /
SP - 241
EP - 252
RP - Not in File
KW - Artificial intelligence
KW - Futures of Society
KW - Problems
KW - Research Needs
KW - Computer Networks
KW - Computer System Design
KW - Information Dissemination
KW - Information Networks
KW - Information Retrieval
KW - Man Machine Systems
KW - Internet
KW - Knowledge Bases
KW - Network Interfaces
KW - Prototypes
KW - Knowledge Acquisition
KW - Tests
N1 - Discusses knowledge acquisition and dissemination in a network environment. Obstacles to the electronic exchange of knowledge and functional requirements for knowledge acquisition, dissemination, and management are summarized. A prototype intelligent Internet interface that mediates knowledge acquisition and dissemination and preliminary test results of the system are described. (15 references) (MES)
ER -

TY - JOUR
ID - 117
A1 - Findler,N.V.
A1 - And Others
T1 - SHRIF, a General-Purpose System for Heuristic Retrieval of Information and Facts, Applied to Medical Knowledge Processing
JF - Information Processing and Management
Y1 - 1992/ /
VL - 28
SP - 219
EP - 240
RP - Not in File
KW - Heuristics
KW - Artificial intelligence
KW - Man Machine Systems
KW - Medicine
KW - Search Strategies
KW - Semantics

KW - Syntax
KW - Computer System Design
KW - Information Retrieval
KW - Language Processing
KW - Cluster Based Retrieval
KW - Knowledge Bases
KW - Medical Information Systems
N1 - Describes SHRIF, a System for Heuristic Retrieval of Information and Facts, and the medical knowledge base that was used in its development. Highlights include design decisions; the user-machine interface, including the language processor; and the organization of the knowledge base in an artificial intelligence (AI) project like this one. (57 references) (LRW)
ER -

TY - JOUR
ID - 118
A1 - Gauch,S.
T1 - Intelligent Information Retrieval: An Introduction
JF - Journal of the American Society for Information Science
Y1 - 1992/ /
VL - 43
SP - 175
EP - 182
RP - Not in File
KW - Information Retrieval
KW - Bibliographic Databases
KW - Cancer
KW - Computer Science
KW - Expert systems
KW - Full Text Databases
KW - Pollution
KW - Public Libraries
KW - Search Strategies
KW - Artificial intelligence
KW - Online Systems
KW - Users Information
KW - Corporations
KW - Gardening
KW - Knowledge Representation
KW - MEDLINE
KW - Natural Language Processing
KW - Experts
N1 - Discusses the application of artificial intelligence to online information retrieval systems and describes several systems: (1) CANSEARCH, from MEDLINE; (2) Intelligent Interface for Information Retrieval (I3R); (3) Gausch's Query Reformulation; (4) Environmental Pollution Expert (EP-X); (5) PLEXUS (gardening); and (6) SCISOR (corporate information). Knowledge representation and sample interactions are discussed for each system. (25 references) (LRW)
ER -

TY - JOUR
ID - 119
A1 - Chen,H.
A1 - Dhar,V.
T1 - Cognitive Process as a Basis for Intelligent Retrieval Systems Design
JF - Information Processing and Management

Y1 - 1991/ /
VL - 27
SP - 405
EP - 432
RP - Not in File
KW - Classification
KW - Information systems
KW - Information Technology
KW - Models
KW - Online Searching
KW - Search Strategies
KW - Artificial intelligence
KW - Cognitive Processes
KW - Computer System Design
KW - Information Retrieval
KW - Online Systems
N1 - Two studies of the cognitive processes involved in online document-based information retrieval were conducted. These studies led to the development of five computational models of online document retrieval which were incorporated into the design of an "intelligent" document-based retrieval system. Both the system and the broader implications of this research for information retrieval systems are discussed. (52 references) (MAB)
ER -

TY - JOUR
ID - 120
A1 - Jones,K.S.
T1 - The Role of Artificial Intelligence in Information Retrieval
JF - Journal of the American Society for Information Science
Y1 - 1991/ /
VL - 42
SP - 558
EP - 565
RP - Not in File
KW - Artificial intelligence
KW - Information Retrieval
KW - Abstracting
KW - Man Machine Systems
KW - Search Strategies
KW - Systems Development
KW - Examples
KW - Knowledge Bases
N1 - Discusses artificial intelligence (AI) and considers four potential roles for AI in information retrieval (IR): (1) information characterization, i.e., building a knowledge base; (2) information seeking, i.e., search formulation; (3) support functions, including abstracting; and (4) systems integration. Three examples are given that show how AI has been used in IR. (seven references) (LRW)
ER -

TY - BOOK
ID - 121
A1 - Moline,J.
T1 - The User Interface: A Hypertext Model Linking Art Objects and Related Information
Y1 - 1991/ /
RP - Not in File
KW - Hypertext

KW - Models
KW - Artificial intelligence
KW - Computer Software
KW - Databases
KW - Man Machine Systems
KW - Microcomputers
KW - User Needs Information
KW - Computer System Design
KW - Expert systems
KW - Hypermedia
KW - Information Retrieval
KW - Multimedia Materials
KW - Numismatics
KW - HyperCard
KW - Experts
KW - Information Sources
KW - Abstracts
KW - Expert System Shells
KW - Prototypes
KW - Knowledge Bases
N1 - This report presents a model combining the emerging technologies of hypertext and expert systems. Hypertext is relatively unexplored but promises an innovative approach to information retrieval. In contrast, expert systems have been used experimentally in many different application areas ranging from medical diagnosis to oil exploration. The information sources used in this model are limited to databases of images (object surrogates and maps), object descriptions, document surrogates (abstracts, references, excerpts), genealogical trees, and time lines of historical events. In addition to hypertext the model uses an expert system shell to generate new information from data entered at a terminal or imported from a database. Sample uses of the prototype based on the model are studied to determine the range of activities that can be performed. Apple's HyperCard and Cognition Technology's MacSMARTS are used with a knowledge base created by the author limited to Arab numismatics. Numismatists work with coins and coin surrogates. These objects contain information that is significant in isolation but is even more important when aggregated. Further, a wealth of information related to each coin ranging from historical references to analyses by art historians needs to be linked to the specific objects. The prototype developed from the model is used to show how hypertext facilitated the resolution of some specific information needs. (16 references) (Author)
ER -

TY - JOUR
ID - 122
A1 - Solomon,P.
T1 - On the Dynamics of Information System Use: From Novice to ?
JF - Proceedings of the Asis Annual Meeting
Y1 - 1992/ /
VL - 29
SP - 162
EP - 170
RP - Not in File
KW - Information systems
KW - Elementary Education
KW - Grade 1
KW - Information Retrieval
KW - Learning Processes
KW - Learning Resources Centers
KW - Longitudinal Studies

KW - School Libraries
KW - Search Strategies
KW - Use Studies
KW - Library Catalogs
KW - Online Catalogs
KW - Skill Development
KW - Users Information
KW - Dynamics
KW - Experts
N1 - Explores the dynamics of information system use to understand the requirements of intelligent information systems. Highlights include the novice/expert distinction and the development of skills from novice to expert; methods for understanding dynamics; and a study of elementary school children's use of an online public access catalog in grades 1-6. (22 references) (LRW)
ER -

TY - JOUR
ID - 123
A1 - Solomon,P.
T1 - On the Dynamics of Information System Use: From Novice to ?
JF - Proceedings of the Asis Annual Meeting
Y1 - 1992/ /
VL - 29
SP - 162
EP - 170
RP - Not in File
KW - Dynamics
KW - Information systems
KW - Elementary Education
KW - Grade 1
KW - Information Retrieval
KW - Learning Processes
KW - Learning Resources Centers
KW - Longitudinal Studies
KW - School Libraries
KW - Search Strategies
KW - Use Studies
KW - Library Catalogs
KW - Online Catalogs
KW - Skill Development
KW - Users Information
KW - Experts
N1 - Explores the dynamics of information system use to understand the requirements of intelligent information systems. Highlights include the novice/expert distinction and the development of skills from novice to expert; methods for understanding dynamics; and a study of elementary school children's use of an online public access catalog in grades 1-6. (22 references) (LRW)
ER -

TY - JOUR
ID - 124
A1 - Zabezhailo,M.I.
A1 - Finn,V.K.
T1 - Intelligent Information Systems
JF - International Forum on Information and Documentation
Y1 - 1996/ /

VL - 21
SP - 21
EP - 31
RP - Not in File
KW - Information systems
KW - Computation
KW - Computer Oriented Programs
KW - Ecology
KW - Futures of Society
KW - Information Technology
KW - Information Transfer
KW - Knowledge Representation
KW - Problem Solving
KW - Artificial intelligence
KW - Data Processing
KW - Expert systems
KW - Information Retrieval
KW - Information Storage
KW - Data Flow
KW - Data Warehousing
KW - Examples
KW - Standardization
KW - Research and Development
N1 - An Intelligent Information System (IIS) uses data warehouse technology to facilitate the cycle of data and knowledge processing, including input, standardization, storage, representation, retrieval, calculation, and delivery. This article provides an overview of IIS products and artificial intelligence systems, illustrates examples of IIS applications in ecology, and identifies paths of research and development. (LAM)
ER -

TY - JOUR
ID - 125
A1 - Chen,Z.
T1 - Enhancing Database Management to Knowledge Base Management: The Role of Information Retrieval Technology
JF - Information Processing and Management
Y1 - 1994/ /
VL - 30
SP - 419
EP - 435
RP - Not in File
KW - Databases
KW - Database management
KW - Knowledge Bases
KW - Information Retrieval
KW - Research Needs
KW - Artificial intelligence
KW - Database Management Systems
KW - Information systems
KW - Conceptual Models
KW - Examples
KW - Knowledge Acquisition
KW - Relational Approach Information Retrieval
KW - Relational Databases

N1 - Investigates the role of information retrieval in the enhancement from database management to knowledge base management and considers the relationship between information retrieval and artificial intelligence. Highlights include unstructured databases; storage of internal forms of documents; an example with relational database operations; and intelligent information systems. (Contains 30 references.) (LRW)
ER -

TY - JOUR
ID - 126
A1 - Wang,P.
A1 - Soergel,D.
T1 - Beyond Topical Relevance: Document Selection Behavior of Real Users of IR Systems
JF - Proceedings of the Asis Annual Meeting
Y1 - 1993/ /
VL - 30
SP - 87
EP - 92
RP - Not in File
KW - Selection
KW - Artificial intelligence
KW - Citations References
KW - Computer System Design
KW - Decision Making
KW - Evaluation Criteria
KW - Models
KW - Online Searching
KW - User Satisfaction Information
KW - Value Judgment
KW - Documentation
KW - Information Retrieval
KW - Relevance Information Retrieval
KW - Cognitive Models
KW - Document Handling
N1 - Describes a study of users' document selection behavior that was conducted to build a tentative cognitive model of document selection behavior to be used in designing intelligent information retrieval systems. Topics addressed include studies of relevance and of decision making; value judgments; and document information elements considered during utility judging. (Contains 24 references.) (LRW)
ER -

TY - JOUR
ID - 127
A1 - Solomon,P.
T1 - On the Dynamics of Information System Use: From Novice to ?
JF - Proceedings of the Asis Annual Meeting
Y1 - 1992/ /
VL - 29
SP - 162
EP - 170
RP - Not in File
KW - Dynamics
KW - Information systems
KW - Elementary Education
KW - Grade 1
KW - Information Retrieval
KW - Learning Processes

KW - Learning Resources Centers
KW - Longitudinal Studies
KW - School Libraries
KW - Search Strategies
KW - Use Studies
KW - Library Catalogs
KW - Online Catalogs
KW - Skill Development
KW - Users Information
KW - Experts
N1 - Explores the dynamics of information system use to understand the requirements of intelligent information systems. Highlights include the novice/expert distinction and the development of skills from novice to expert; methods for understanding dynamics; and a study of elementary school children's use of an online public access catalog in grades 1-6. (22 references) (LRW)
ER -

TY - JOUR
ID - 128
A1 - Flagg,G.
T1 - Rocky Mountain High-Tech: LITA's Denver Conference
JF - American Libraries
Y1 - 1992/ /
VL - 23
SP - 836
EP - 838
RP - Not in File
KW - Conferences
KW - Artificial intelligence
KW - Computer Networks
KW - Females
KW - Information Networks
KW - Information Technology
KW - Library Associations
KW - Library Automation
KW - American Library Association
KW - Electronic Libraries
KW - Internet
KW - Library and Information Technology Assoc ALA
KW - Virtual Reality
KW - Expert systems
KW - Automation
AV - ITESM-Centro de Información Biblioteca y Educational Resources Information Center de SilverPlatter
N1 - Reports on the third national conference of the American Library Association's Library and Information Technology Association, which was held September 13-16, 1992, in Denver, Colorado. Program highlights are summarized, including virtual communities, virtual reality, the electronic library, artificial intelligence and expert-systems, navigating the Internet, and women in automation. (MES)
ER -

TY - JOUR
ID - 130
A1 - Borah,E.G.
T1 - Beyond Navigation: Librarians as Architects of Information Tools
JF - Research Strategies

Y1 - 1992/ /
VL - 10
SP - 138
EP - 142
RP - Not in File
KW - Librarians
ER -

TY - BOOK
ID - 131
A1 - Alberico,R.
A1 - Micco,M.
T1 - Expert systems for reference and information retrieval
Y1 - 1990/ /
SP - xiii
EP - 395
RP - Not in File
CY - Westport
PB - Meckler
KW - Reference Services
KW - Expert systems
KW - Information Retrieval
U1 - Ill
U2 - Sala 2ndo piso
U3 - Z 678.93.E93 A4 1990
T3 - Suplements to computers in libraries; 10
AV - ITESM-Centro de Información Biblioteca
N1 - Incluye referencias bibliográficas e índice temático
ER -

TY - BOOK
ID - 132
Y1 - 1997/ /
RP - Not in File
ER -

TY - BOOK
ID - 133
T1 - Expert Systems in reference services.
Y1 - 1989/ /
SP - xvii
EP - 238
RP - Not in File
A2 - Roysdon,C.
A2 - White,H.
CY - New York
PB - Haworth Press
KW - Experts
KW - Expert systems
KW - Reference Services
KW - Librarians
U1 - ill
U2 - sala 2ndo. piso
U3 - z 678.93.E93 E 96 1989

T3 - The reference librarian; 23
AV - ITESM-Centro de Información Biblioteca
N1 - Incluye bibliografía
ER -